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Commonwealth of Pennsylvania

# REPORT

OF THE

# Department of Mines

OF PENNSYLVANIA

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PART I---Anthracite

1915

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HARRISBURG, PA.:  
WM. STANLEY RAY, STATE PRINTER.  
1916



## LETTER OF TRANSMITTAL

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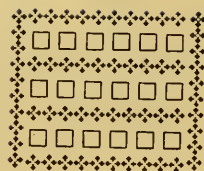
Department of Mines,  
April 1, 1916.

To His Excellency, Martin G. Brumbaugh, Governor of Pennsylvania.

Sir: In compliance with the Act of Assembly of April 14, 1903, I beg to submit herewith, for transmission to the General Assembly, the report of the Department of Mines for the year ending December 31, 1915. Part I covers in detail the operations in the twenty-one Anthracite Districts, Part II the operations in the thirty Bituminous Districts, as returned by the Inspectors. Observations and suggestions are also offered relative to mining subjects.

Respectfully submitted,

JAMES E. RODERICK,  
Chief of Department of Mines.



# REPORT

## OF THE

# DEPARTMENT OF MINES

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### INTRODUCTION

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The total production of coal in Pennsylvania in 1915 amounted to 246,797,774 net tons. The number of accidents was 3,340, of which 1,030 were fatal and 2,310 non-fatal. The anthracite region produced 89,377,706 net tons of coal, as against 91,189,641 tons in 1914. The bituminous region produced 157,420,068 net tons of coal, as against 145,884,530 tons in 1914, and 22,012,949 net tons of coke, as against 17,164,124 tons in 1914.

The year opened with most unfavorable conditions, but towards the middle of the summer the bituminous trade began to feel the effect of the foreign orders for war munitions that called into activity nearly all available plants in the eastern part of the country. Any concern that was able to manufacture powder, shell, guns or other supplies needed by the foreign countries, was placed in operation and work was pushed with feverish activity. The demand for bituminous coal to supply the needs of the plants engaged in this newly developed trade became so urgent that part of the output was diverted from its usual channels, and, as a result, the anthracite trade was benefited by the demand that arose for the smaller sizes of coal. As the year progressed, the industry became still more active and the year terminated with both regions producing very heavily and with prices at abnormal figures.

Higher prices for coal are expected during the year 1916. They are at least hoped for most ardently by most of the bituminous operators who feel that an advance of from five to twenty-five cents a ton is absolutely necessary to keep them from loss. The two principal arguments for a higher price are, that all other articles consumed or used in any way by the public have advanced in price, and the further reason that the profits on bituminous coal have hitherto been entirely too small. The existence of some of the operators, when the selling price is very little greater than the cost of production, is very precarious and it is the general opinion that a higher price must be received for the production or some of the less firmly entrenched and less favorably situated operators will be compelled to relinquish

the business. Another element that enters into this question is the steady advance in the cost of production, due to the deeper mines, the longer hauls and the higher cost of labor, all elements that affect materially the total cost of producing coal.

The introduction and enforcement of the Compensation Act of 1915 will no doubt place an additional burden on the coal operators. The reporting of accidents to the State authorities with the utmost dispatch after their occurrence will in some instances be somewhat difficult and expensive, and the fact that the insurance rates are to be based on the risks of the individual mines, instead of being made equal throughout the State, will make necessary the installation of expensive safety devices by most of the smaller operators to bring their mines up to the standard maintained by the larger operators.

Labor troubles of the year were of a minor character and confidence is expressed for a continuance of peaceful operation, although the renewal of the wage scale in both regions April 1 may prove an occasion for disturbance. The bituminous miners are having a prosperous period at present and they are generally anxious to continue without a break in their earning power. In the anthracite region conditions are more uncertain and more apprehension exists as to the future.

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## WORKMEN'S COMPENSATION

Compensation for industrial accidents is not by any means a new idea. The desire to assist those who are injured or those who may be left dependent has made itself felt in numerous attempts at compensation in years gone by. In fact, the controlling principle of the trade guilds that existed during the middle centuries was the principle that underlies the compensation movement of today. While the idea is old, the first governmental administration of any of the so-called helpful measures was inaugurated in Germany only about sixty years ago. In that country they now have an employers' liability law and also compulsory sick and accident benefits. It was not, however, until the twentieth century that compensation legislation reached a position of importance in the world at large.

Compensation legislation may very appropriately be classed among the highest of governmental attainments. It is the evidence of a fine humanitarian spirit, a spirit fortunately that is daily awakening to greater activity and urging to greater accomplishment; and while the present laws on this subject in this country are tentative in form and necessarily somewhat crude and defective, they nevertheless mark an important step in the direction of ultimate protection to the working classes. The Commonwealth of Pennsylvania by the enactment of the Compensation Law of 1915 has taken its place among the most advanced and progressive States of the Union in this beneficent form of legislation, and to Governor Brumbaugh much credit is due for his consistent and staunch advocacy of the measure.

In this connection it is worthy of note that no State that has adopted compensation has ever relinquished it to go back to the unfair and uncertain common law basis of liability.



The Department of Mines views with pleasure the progress in compensation legislation, as it is in keeping with the frequent suggestions made in the annual reports of the department as to the necessity for giving protection to the workers of the State, particularly the mine employes, the first suggestion having been made in 1882 by the present Chief of the Department who was then a State Mine Inspector in the anthracite region. The recent suggestions by the Department have been along the line of placing a tax on the coal production. A tax of two and one-half cents a ton on the annual output, approximating 250,000,000 tons, would yield \$6,250,000 revenue, or \$120,000 a week, a sum undoubtedly adequate for the purpose.

Under the Act of 1915, the entire mining community will enjoy a protection never known before, and the assistance will come to the miners and their families without the necessity of appeal to the employer or resort to the courts. It can never, of course, be pleasing to contemplate injury from accident, but there will be nevertheless a sense of comfort to both the miner and to his family in the thought that in case of a calamity, perhaps unavoidable or inevitable, the burden will be somewhat lightened by a certain and definite recompense. In times of distress such as follow all severe accidents, the assurance of even a comparatively small fund for sustenance will be most grateful.

Pennsylvania has been fortunate in having a large and efficient State inspection force whose duty it has been to insist upon the enforcement of the provisions of the laws that relate to safety conditions in the mines. It has also been fortunate in the large number of operators who have shown a remarkable degree of consideration for their employes, not only by installing in the mines practically every modern safety device and adopting the most comprehensive rules of safety, but by their humanitarian efforts in the way of aiding in the establishment of relief funds for those who are injured or those who may be left dependent. No doubt, however, the additional obligations that will be placed upon the operators by reason of the enforcement of the compensation law will act as a spur to still further efforts in the way of improving the conditions of safety, which will or ought to reduce the accidents during 1916. The certainty that every serious accident will require the outlay of a definite sum of money will be a strong incentive to go to extremes in the way of protective measures. Just what further precautions they can take is a matter of conjecture as most of them have already more than complied with the requirements of the law in this respect. There will, however, undoubtedly be a more rigid enforcement of the mine rules, and the individual worker will have emphasized to him the necessity for constant attention to the ever-present dangers that surround his occupation.

The compensation act will therefore have the double virtue of tending to prevent accidents and of caring for the employes who are so unfortunate as to suffer from them.

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### FOREIGN TRADE

At the beginning of the year lively hopes were entertained for an increase in the export trade of coal, but the year closed with less volume of export business than the preceding year. An encourag-

ing phase, however, was the beginning of a certain trade with the competitive markets of the world that may develop in future to large dimensions. In some respects the progress towards the conquest of foreign trade was remarkable. Several of the great coal companies have established foreign sales offices and agents, and are acquiring ships to carry their coal. Some of them already have docks. Practically all of the companies have been obtaining credit information and in other ways preparing to enter upon foreign trade.

Many of those who hope for a market for Pennsylvania coals other than the home market, realize that there are two ways of disposing of their product. One is to ship the coal as raw material. The other is to use it in manufacturing articles that can be sold abroad. Of the two ways, the latter is deemed by some authorities to be the wiser to follow for the reason that having united with the cost of labor the cost of coal in the production of certain articles, there will be a greater effort to sell them. More than this, the matter of transportation is a very serious one, as the ship space is extremely valuable, and the same amount of space allotted to the finished product would bring much greater returns than if allotted to the low priced raw material. Every thought on this question leads to the conclusion that it is to the interest of Pennsylvania to export coal in the form of manufactured products rather than as a raw material. Owing to our tremendous production, however, the necessity constantly exists for disposing of the coal in the quickest possible way and for that reason the operators are inclined to resort to coal shipments rather than wait for a profit to come from the sale of manufactured articles.

#### BY-PRODUCTS AND DYES

About one-third of the coke tonnage of the United States is produced by the by-product ovens; the other two-thirds, or perhaps 30,000,000 tons, are produced by the old beehive ovens that not only produce less coke but waste entirely the by-products—benzol, gas, tar, ammonia, et cetera.

The benzol products are particularly valuable at this time as they are largely used in making dyes, and as the supply of dyes from Germany has been cut off by reason of the war, these products have acquired almost fictitious values. In response to the urgent demand for them, there has come into existence a number of inefficient plants, which, in spite of their inefficiency, are making a great deal of money in producing benzol; and at some of the by-product plants the coke is being stocked, the by-products only being utilized.

The conditions that existed shortly after the war began gave rise to the belief that the United States was about to launch largely into the manufacture of dye stuffs, owing to the tremendous field opened up for such articles. It seemed like an easy thing for the wide-awake American to grasp this unexpected opportunity. It meant much money and at first blush seemed very plausible. The results thus far, however, have not been very encouraging, and while the ability to produce by-products, including the numerous and very desirable dyes now made in Germany, would help to relieve the coal and coke situation, success in this direction cannot be expected for many years. It is practically a new field of endeavor for the American and one that requires patience, ability and long years of effort to bring satisfactory results.

## CERTIFIED MINE FOREMEN AND FIRE BOSSES

What would seem like a step backward in mining legislation, was the amendment made by the legislature of 1915 to the laws relating to the examination of mine foremen and fire bosses in both the anthracite and bituminous regions, by which these officials were exempted from examination.

Ever since the passage of the act of 1885 the operators have been obliged to confine their selection of mine foremen and fire bosses to the men who held certificates of qualification from the Department of Mines, received after examination by the State boards, but they may now employ whom they please, with the restriction, however, that the men employed must possess equal qualifications with the men who hold certificates.

This legislative action was taken to bring the great army of miners under the provisions of the new compensation law. The opinion prevailed that they could not legally participate in the benefits of the law while under the supervision of mine foremen and fire bosses who were classed as State agents and were practically representatives of the State, although employed and paid by the operators.

The Department of Mines has always believed in the greatest degree of efficiency in these important officials and has strenuously advocated a practical and thorough test of their qualifications by a rigid examination by a State board, realizing that upon these men depend in no small degree the safe operation of the mines and the consequent protection of the employes. However, as it was only a matter of fairness that the miners as well as those dependent upon them should share in the benefits of the new legislation, the operators are made free, as stated, to employ men who are without any specific or official certificate of qualification or character from the State.

The Department, notwithstanding the change in the law, will continue to hold examinations as usual, and it is most gratifying to know that the number of applicants in 1916 will in all probability be as large as in other years. There are two reasons for this condition. First, the operators must have mine foremen and fire bosses who are qualified for the positions, and the possession of a certificate from the State is accepted as sufficient evidence of qualification. Second, the mine foremen and fire bosses themselves seem anxious to have their ability and fitness attested to by the State examining boards.

The desire of the operators for competent employes, as well as the expressed desire of the employes to demonstrate their fitness by examination, gives assurance of continued careful and efficient operation of the numerous mines of the State.

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## HISTORICAL REVIEW OF THE USE OF ELECTRICITY IN THE MINING AND PREPARATION OF ANTHRACITE COAL IN THE STATE OF PENNSYLVANIA\*

The first use of electric power in the mining of anthracite coal is of such recent origin that it is within the memory of most men engaged in the industry.

\* Paper prepared by a Committee of Electrical Engineers (H. M. Warren, Chairman) of the Engineers' Society of North Eastern Pennsylvania and read at a meeting of the Society June 13, 1914.



Overcoming the skepticism and to a large extent, antagonism, electricity has, within the last 27 years, with rapid strides, advanced from a minor position to one of the greatest importance.

Because of the low first cost and familiarity with the uses of steam and compressed air, the adoption of electricity was greatly retarded. The use, however, of steam and compressed air, necessitated long lines of steam and air piping, which were expensive in first cost and maintenance. Since the electric power eliminates many of the objections of these systems and affords a more flexible medium of transmitting energy, it is easily understood why it has made such rapid progress. Today, all power driven equipment required for the production and preparation of anthracite coal, can be operated electrically.

The most important factor influencing the general adoption of electric power was the electric mining locomotive.

The first electrical installation was made in 1887 by The Pennsylvania Railroad Company at its Lykens Valley Colliery. This consisted of an electric generator and a straight haulage mine locomotive. No description of the generating plant has been obtained, except it is known that it was designed and installed by the Union Electric Company.

In 1889 the Thompson-Houston Company installed a locomotive in the Erie Colliery of the Hillside Coal and Iron Company of Mayfield. A generating station was also installed. It is interesting to note that this locomotive was in service until 1911 or a period of 22 years of continuous service.

In 1891 the Hillside Coal and Iron Company installed at its Forest City operation, a generating plant and two 12-ton "Terrapin Back" locomotives.

In 1893 at the Mt. Lookout Colliery, Wyoming, a generating station and a 6-ton locomotive were installed.

In 1894 the D. L. & W. R. R. Company installed at their Bellevue Colliery, a generating station and a 10-ton locomotive.

In 1894 the New York and Scranton Coal Company installed at Ontario Colliery, Peckville, a generating station and a 7-ton locomotive.

In 1895 at the Johnson Mines, Green Ridge, later called the Green Ridge Coal Company, there were installed a generating station and a 6½-ton locomotive.

The first electric pump installed was at the Hillside Coal and Iron Company's Forest City operation, in 1890, and it has been in continuous operation ever since.

Soon after, the second electrically driven pump was installed at the William A. Colliery of the Connell Coal Company, at Duryea, Pa.

The third electrically driven pump was installed at the Mt. Lookout Colliery in 1893. This pump was recently moved to the Lackawanna Colliery of the Temple Iron Company and is still in operation.

The next electrically operated pump was installed in April, 1894, at the Ontario mine of the Scranton Coal Company. This was still in operation a few months ago, which is practically nineteen years' service.

In 1896 the first electrically operated hoist was installed at the Lehigh Valley Coal Company's Maltby Colliery, West Wyoming, Pa.

## GENERATING STATIONS

Very little is known of the generating installation at Lykens Valley, but the next installation was made by the Hillside Coal and Iron Company at Mayfield, Pa., in 1899 and consisted of a 30-KW 220 volt D. C. 1150 RPM, class III, Thompson Houston generator, belt-driven by a 10"x16" Armington and Sims simple, slide-valve center-crank engine. This equipment furnished the power for operating an electric locomotive in the Erie mines.

In 1891, the Hillside Coal and Iron Company installed at its Forest City operation, one D-62 (85 HP.) 220-volt D. C., 900 RPM generator, belt-driven by a 15"x16" Armington and Sims simple, slide-valve, center-crank engine.

Since that time, plant after plant has been installed by the mining companies and a gradual evolution has taken place. The modest power plant consisting of a single engine of the simplest type and of less than 50 indicated horsepower, belted to an electric generator and with a switchboard frame made of wood, has evolved into the modern mining central station containing 4,000 K. W. turbine driven units, with a total station capacity of 10,500 K. W's.

The prime movers are directly coupled to generators and are supplied with steam at 150 to 200 pounds pressure and superheated 150 degs. F. Instead of exhausting into the atmosphere as in the earlier days, the prime mover of the up-to-date generating plant exhausts into condensers operating under high vacuum.

In the place of the wood frame switchboard, we now find marble or slate switchboards consisting of 25 to 30 panels, and equipped with the most modern type of instruments for measuring and recording the energy and having its switch gear remotely located and controlled by small switches on the switchboard panels.

The evolution has been gradual but constant. The small belted reciprocating prime mover gave way to direct connected units of somewhat larger size. These were superseded by still larger units with compound and condensing prime movers, which in turn were superseded by the steam turbine driven unit.

In the last few years a number of coal companies have installed mixed pressure turbines, this being done to take advantage of the great quantities of steam being wasted, at atmospheric pressure, from the numerous engines and pumps employed at the collieries.

Where these mixed pressure turbines have been installed, suitable water in sufficient quantity has almost invariably been unobtainable, and for this reason it has been necessary to erect cooling towers to overcome the difficulty.

The earlier generating stations supplied direct current at approximately 220 volts, but the present tendency is toward the generation of alternating current at not less than 2,300 volts, and at a frequency of 25 or 60 cycles.

Under the earlier conditions of low voltage it was uneconomical to transmit electric power for distances much in excess of a mile. For this reason, it was generally necessary to install a power plant at each colliery where electric power was required. Now, however, due to the ease of transmitting and transforming alternating current, power plants are growing many times larger in size instead of increasing so fast in number, and the modern plant sends its energy at high voltage to all collieries requiring current, regardless of distance, in the sense in which this factor was once considered.

In 1887 the first generating station was installed. Between that year and 1895, six generating stations were installed, with an aggregate capacity of 459 K. W. Between 1895 and 1914, a period of nineteen years, a total of 68,000 K. W. in generating capacity has been installed. This represents an increase approximately of 15,000% over that installed up to 1895; and in addition to this, power is purchased to an extent that would represent about 11,000 K. W. station capacity.

### TRANSMISSION OF ELECTRICITY

In the early days electric power was generated and transmitted at either 250 or 500 volts direct current. The transmission lines usually consisted of about 250,000 C. M. solid wire connecting the power house to the inside workings by way of the main shaft. The trolley wire was of round cross section and seldom larger than 2-0 B. & S. gauge.

The trolley wire was held in place by shield type clamp ears which in turn were fastened to cap and cone type hangers. While at the present time insulators and this type of hanger are still in use, yet in the meantime a great variety of insulators and mechanical clamps have been developed and tried out and a number of different types are in very general use. These are, however, all adopted for supporting the grooved trolley wire which is now almost universally used.

The original bonding consisted of soft drawn copper wire held in place by means of channel pins and this method of bonding is still in very general use, although for the more important haulage roads, more efficient bonds of the pin expanded or compressed terminal types are being adopted.

With the advent of the central station generating power at high voltage, the primitive transmission of comparatively short distances has been extended to upward of twenty (20) miles. Wooden poles are in general use for the transmission line although a few concrete poles are in service under test and a few transmission lines are being constructed using steel towers. The general details of construction have, however, been very much improved. In order to facilitate the distribution of electricity, it is now customary to take the power cables into the mine through bore-holes driven for this particular purpose, when conditions are such as to warrant it, thus eliminating unnecessarily long circuits. The cables used in these bore-holes differ greatly in their make-up: rubber, paper, and varnished cambric have been used as insulating material; some have been covered with woven braid impregnated; others encased with a lead sheath, and still others have the lead sheath and armor.

In general, there are now about 169 miles of wooden pole transmission line on the surface and 754 miles of trolley line inside.

### SUB-STATIONS

In order to utilize the output of the modern power plant for electric mine locomotives, undercutting machines, and other 250 or 500 volt D. C. equipment, it is necessary to convert the high tension alternating current into direct current, and numerous sub-stations are now installed, either on the surface or below ground, near the center of distribution of the D. C. load.



These sub-stations contain rotary converters or motor-generator sets, ordinarily of not less than 100 K. W. capacity, but sometimes as large as 750 K. W. The largest direct current sub-station at present has a capacity of 1,250 K. W.

The motors of the first motor-generator sets were of the squirrel cage induction type, but the present tendency is to use a synchronous motor in order to give better control of the power factor.

The total D. C. capacity of the sub-stations at the present time is approximately 22,000 K. W's, about equally divided between motor generator sets and rotary converters, the former ranging in size from 20 to 750 K. W's and the latter from 100 to 500 K. W's.

#### ELECTRICAL PUMPING

In 1891 the first electrically operated pump was installed in the Forest City operation of the Hillside Coal and Iron Company. This was a 4"x4" vertical triplex Gould pump.

The second was at the William A. Colliery of the Connell Coal Company, Duryea. This was a 6½"x8" horizontal triplex plunger pump, operated by a 15 HP motor.

The third was in 1892 at the Mt. Lookout Colliery. This was a 7½"x12" duplex double acting piston pump. This pump is still in operation.

The next, in April, 1894, at the Ontario Colliery of the Scranton Coal Company, was a 5"x6" vertical Knowles pump, mounted on a truck so that it could be lowered in a slope. This pump had a capacity of 60 gallons per minute and has been in service 19 years.

Since that time a great many motor driven pumps have found places in anthracite mines.

Nearly all of the earlier electric pumps were of the small vertical triplex plunger type, with double reduction gears, but these gave way gradually to the horizontal plunger pump with single reduction gears. Later, however, much larger pumps, of both the vertical and horizontal types, were used, the largest being driven by motors of 275 H. P.

Within the last ten years the centrifugal pump has made great strides, until now there is a very large number of these pumps in the larger sizes, and the tendency seems to be towards its nearly, if not quite, supplanting the motor-driven plunger pump where the quantity of water to be pumped approaches 750 to 1,000 gallons per minute.

The largest pumps of this type are at the Hampton water shaft of the D. L. & W. R. R. Company, each having a capacity of 5,000 gallons per minute against 500 ft. head, and driven by a direct connected 1,000 H. P. induction motor.

Large motor-driven centrifugal pumps are now being used to unwater a flooded mine containing over one-half billion gallons of water, the pumps being required to work in two compartments of a shaft, the size of each compartment being only 6x10 feet and 585 feet deep. The mine has been flooded for approximately 14 years, and there is an inflow of 2,000 gallons per minute. No other method would have been practicable for this work on account of the great depth and limited space. The work is proceeding successfully and in about four months the water has been lowered 225 feet and one vein has already been unwatered.

For local dips in different sections of the mine a favorite pump is the horizontal triplex plunger type, driven by an electric motor of from 5 to 10 H. P. taking power from a trolley line. There are hundreds of these in service and they are proving of great value. To accomplish the work they are doing would require thousands of feet of steam or air lines, expensive in upkeep, and often containing more water than anything else. In a great many cases, these little electric pumps have supplanted the steam operated ones because of the exceedingly low steam pressure at the pump, to say nothing of the annoyance of the exhaust steam discharged into the air-ways.

The total rated horsepower of motors operating pumps is now approximately 38,500 H. P.

### ELECTRIC HOISTS

For handling cars on the extremely severe grades which are encountered in the mines, hoists are necessary. The early hoists were operated by steam or compressed air, but because of the greater advantages of motor-driven hoists, these have gradually replaced the former, particularly those located inside the mine. The present tendency is to use the motor drive.

The electric hoist is the simplest and most compact form, inasmuch as the motor can usually be mounted on a common base with the hoisting drum and arranged to drive it directly through gears, thereby forming an entirely self-contained unit and effecting an economy in weight and in the amount of space required for its installation, which is often of appreciable importance when the hoist is located in the mines.

The first electric hoist to be installed was at the Maltby Colliery, at West Wyoming, Pa., of the Lehigh Valley Coal Company, in 1896, the slope being 1,200 feet long. The hoist was manufactured by the Lidgerwood Manufacturing Company and driven through double reduction gears by a G. E. 2,000, 500 volt D. C. motor, controlled by an R-15 controller. This equipment has been in continuous service ever since.

A number of very important changes have been made in the design of electric motor-driven hoists within the past eighteen years. About 7 or 8 years ago, the first A. C. variable speed induction motor-driven hoist, with drum type of control, was tried out. A few of the later equipments have used the automatic contactor or liquid rheostat type of control.

At the Hampton water shaft of the D. L. & W. R. R. Company there is an interesting and unusual type of hoisting equipment which was installed in 1905. This consists of a large coned drum, hoisting the water in buckets which are installed similar to the ordinary hoisting equipment.

The motor is 800 H. P. and runs at 225 RPM. It is of the squirrel cage type and operates continuously, that is, it does not stop and reverse.

The reversing of the drum proper is done by means of clutches located on an intermediate shaft. These clutches are controlled by air cylinders released by gravity. Control of the air is in turn effected by solenoids as is also the brake: thus there are only three direct current solenoid circuits to control the starting, stopping, and reversing of the equipment. This is done automatically by means of a



special device operated from the main drum shaft and a smaller shaft continually operated by the motor. The buckets hold about 3,200 gallons and the equipment hoists 76 buckets an hour.

There is being installed at the present time at the Truesdale Colliery of the D. L. & W. R. R. Company a hoist driven by a 600 H. P. induction motor with liquid rheostat. The hoist will have a rope speed of 1,200 feet per minute and a rope strain of 25,000 lbs.

The Lehigh Coal and Navigation Company are about to install two electrically operated shaft hoists driven by 2,200 volt 3-phase 292 RPM 750 H. P. motors. The shaft is 1,050 feet deep.

There are three applications of shaft hoists at the present time, one at the Hampton water shaft for hoisting and lowering men, operated by a 30 H. P. motor; one at the Washburn Street air shaft, D. L. & W. R. R. Company operated by a 35 H. P. motor. This shaft is used as a second opening. The third installation is at the Clear View Coal Company. This is used for hoisting coal and was installed in 1912 and operated by a 112 H. P. motor. Since the original installation of the first hoist in 1896, up to the present time, or a period of eighteen years, a total of 22,480 H. P. in motor capacity, operating the hoists, has been installed.

### LOCOMOTIVES

The first locomotive was installed in 1887 at the Pennsylvania Railroad Company's Lykens Valley operation. The particular distinctive features of this locomotive were: single motor, the use of chain drive, water rheostat controller and overhead rail contact.

The second was made by the Thompson-Houston Company and installed at the Erie Colliery of the Hillside Coal and Iron Company at Mayfield, in 1889. This locomotive was equipped with a single motor, double-reduction gears, side rods, and pantagraph trolley.

In 1891, two 12-ton "Terrapin Back" side rod locomotives were placed in operation at the mines of the Hillside Coal and Iron Company at Forest City. These were also equipped with single motors and pantagraph trolleys. Each of these locomotives travelled approximately 36 miles per day and handled a total of 33 cars per trip. The average day's work was 511 cars.

In 1893 at the Mt. Lookout Coal Company, Wyoming, there was installed a 6-ton locomotive equipped with two 15 H. P. motors.

In 1894, at the D. L. & W. R. R. Company's Bellevue Colliery, a 10-ton locomotive.

In 1894, at the New York and Scranton Coal Company's Ontario Colliery, a 7-ton locomotive for use in a tunnel.

In 1895, at the Johnson Mines, Green Ridge, a 6½ ton locomotive.

Since these first locomotives were installed, various improvements in construction and design have been adopted to meet the constantly increasing demands required in the locomotive performance.

About the year 1902, the idea was conceived that if the locomotive could be so designed that it would operate for distances of five or six hundred feet away from the trolley wire, by means of an automatic cable reel device, such a locomotive would fill a long felt want,

in that it would permit the displacing of a larger number of mules used solely for the purpose of gathering the coal from the chambers. The problem was carefully studied and a locomotive of this type brought out, the first one having a vertical reel driven by chain from one of the axles to the locomotive.

A large number of such equipments were afterwards used, but later this method of driving the reel was given up and an independent motor used instead. Today, practically all new cable reel equipments are driven by independent motors. Reels of both the vertical and horizontal types are used.

The present day locomotives are usually operated by two railway type motors, one carried from each of the two axles, with controllers of the series and parallel type. The sides and end frames are usually made of steel, instead of cast iron as used in the earlier types. There is a strong tendency to use cast grid resistance to the exclusion of other types formerly used, and more attention is being paid to the size of connecting wires and the quality of insulation used.

In most cases, incandescent lamps are used in the headlights, but in a few instances, are headlights are being tried out.

There has been a constant improvement in the design of the motors themselves, and a decided tendency to increase the horsepower capacity for a given weight of locomotive, as well as to reduce the locomotive speed.

There is also a strong inclination to use motors having interpoles and ball bearings for the armatures, although motors not provided with either of the latter; are giving very satisfactory service.

The motor casings are now usually split diagonally and suspended from the lower half of the casing, thus permitting easy removal of the top half for inspection and repairs.

Recent locomotives have, in some instances, been provided with what is commonly known as a "crab device" which is in reality a small independent or clutch driven winding drum that can be used for hauling the mine cars out of a chamber to the maintrack. When this device is not operated by an independent motor, the arrangements are such that by means of a clutch one of the locomotive motors is used to drive it. In a few cases, there are locomotives in service equipped with both cable reel devices and crab equipment.

The use of electric locomotives has permitted the driving of gangways and chambers in a more systematic manner than was formerly possible with mules, when it was necessary to more or less carefully grade the roads to facilitate haulage. As a result, the gangways are now driven in a regular manner, regardless of moderate grades, thus naturally increasing the duty of the locomotives, and this condition accounts largely for the necessity of increasing the horsepower capacity of locomotives at the present day over those used in the past. Increase of car weights and increased length of hauls has also affected the motor capacity required.

In recent years, considerable thought and attention has been given the use of storage battery locomotives, but up to the present time there is only one in use in the anthracite mines.

A combined trolley and storage battery locomotive has also been seriously considered and experimentally tried out.

From 1887, when the first locomotive was installed, to 1895, a period of eight years, a total of eight locomotives were put in service.

From 1895 to 1914, a period of nineteen years, a total of approximately 951 locomotives were installed.

Since the electric mine locomotive has been in use, it has erroneously been termed a "motor." We strongly recommend that this usage of the word be discontinued, and the term "electric locomotive" used instead.

#### BREAKER DRIVES

In October, 1902, the first individual motor-driven breaker was placed in operation. The motors were of the direct current type, operated at 250 volts, the power supplied from engine driven generators at the Colliery. These motors were in service until about three years ago when they were replaced with alternating current motors, as A. C. power was available from a central station built in the meantime.

Since that time four other new breakers have been equipped with individual motor drives, and others are under course of construction, A. C. motors being used in all cases.

The motors used in the breaker vary in size from 5 to 75 H. P., and are what is known as the squirrel cage type, except the main conveyors which are driven by motors of the wound rotor type, varying in size from 150 to 200 H. P.

In addition to the motors used in the breaker, there are numerous motor installations around various collieries driving equipments such as rock pulverizers, refuse conveyor lines, pumps for supplying water to washeries and breaker annexes, ventilating fans, endless car hauls, coal feeders for main conveyors, coal conveyors to the boiler plants, ash conveyors, machine shops, carpenter shops, blacksmith shops, force blowers, box car loaders and prop saws.

There is installed at the present time in breaker motor drives and miscellaneous motors about the colliery, a total of about 18,840 horsepower, of which about 6,000 H. P. is used in breaker drives.

#### COAL CUTTING MACHINES AND MINE CONVEYORS

In order to make mining of the thin seams commercially practicable, it has become necessary to resort to some mechanical means of cutting the coal and conveying it.

Machines for under-cutting coal were first tried out in the anthracite region about 1902, but were not seriously considered until about four years ago. Since that time there has been a gradual increase in the number used, particularly in the mining of the thinner seams. On account of the varying conditions under which these machines have been tried, various types have been used, and undoubtedly other types will be developed to meet the requirements.

The motors have ordinarily been rated at 35 H. P. on intermittent rating, but where the equipment must be operated more or less continuously, for a considerable period of time, indications are that motors of greater horsepower will be required. Some few machines have been provided with 50 H. P. motors.

One of the recent developments is a machine so constructed that the cutter bar can be raised or lowered within certain limits, and can also be rotated about a vertical axis, this machine being able to make its cut at the top of the vein or somewhat lower. .



During the last two years in certain localities where thin seams are mined, motor-driven conveyors have been installed to deliver the coal from the working face into the mine cars. The first conveyor of this type was installed in 1912. At this time, there are probably about 30 such equipments in service.

There is now about 2,900 H. P. of motor capacity in coal cutting machines and 225 H. P. for conveyors.

### TELEPHONES

No record has been obtained of the number of telephones in service, but there are probably between two and three thousand. Most of these are of the ordinary wooden type, but for special cases, moisture-proof types enclosed in metallic cases are used when the conditions are severe due to dampness or other causes.

### SIGNALS

Slopes and planes. The usual signal system consists of an ordinary electric bell, with dry or wet batteries, located in the hoist room. The signals are given by pressing together the two bare signal wires which are attached to insulators along the slope or plane, or by pressing the push button located at the various lifts.

Frequently, trip runners are provided with a pocket telephone, by means of which they could communicate with the hoist operator who is provided with a similar equipment.

### SHAFT SIGNALS

While not general, there are a great many electric shaft signals of various types, but the majority consist of the ordinary vibrating bells and push buttons at the various landings, with bells and annunciator in the hoist house, and push button for the return signal. These are operated by dry or wet cells.

In addition, there are telephones at the various landings connected to the hoist house. The signal and telephone wires are usually insulated with rubber and made up in the form of a cable, which is encased in a lead sheath or in a circular loom.

From the foregoing, it will readily be seen that the use of electricity in and about the mines has gradually increased for the past twenty years until it has now become a most important factor. The first more or less crude installations have given way to the large and efficient centralized generating stations, with their accompanying transmission lines, transformers, and direct current sub-stations. In all probability electric power will continue to be used at an increasing rate until it largely supersedes the direct use of steam and compressed air.

## SUMMARY OF APPARATUS IN SERVICE

## GENERATING EQUIPMENT

## ENGINE DRIVEN

	KW's.
Simple, .....	37,016
Compound, .....	6,750
Condensing, .....	330
Total, .....	44,096 KW's.

## TURBINE DRIVEN

High Pressure, .....	21,087
Low " " .....	200
Mixed " " .....	2,875
Total, .....	24,162 KW's.

Grand Total, ..... 68,258 KW's.

## POWER PURCHASED

Kilo-Watt Demand, .....	11,553 KW's.
Grand Total—Station Capacity and Power Purchased, .....	79,811 KW's.

## COOLING TOWERS

Number of Towers in Service, .....	4
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## TRANSMISSION

Wooden Pole Line above Ground, .....	169 miles
Cables in {Duct, .....	14,900 ft.
{Bore-hole, .....	21,750 ft.
Trolley Wire (underground), .....	754 miles
Contact Rail (underground), .....	3½ miles

## SUB-STATION

	KW's.
Motor Generator Sets, .....	11,060
Rotary Converters, .....	10,850
Total, .....	21,910 KW's.

## ELECTRICALLY OPERATED EQUIPMENT

Breaker and Miscellaneous, .....	19,170 HP.
Hoists, .....	23,280 "
Pumps, .....	38,500 "
951 Locomotives (Est. at 60 HP. per locomotive,).....	57,060 "
Coal Cutting Machines, .....	2,920 "
Lighting (2,727 KW's.), .....	3,650 "
Heaters (75 KW's.), .....	100 "
Total, .....	144,680 HP.

## WORK OF THE MINE INSPECTORS

During the year they spent 3,402½ days inspecting mines; 121 days inspecting machinery and plants; 403½ days investigating accidents; 85 days attending inquests; 1,084½ days at office work; 24½ days inspecting maps and plans; 587½ days in consultation on mining matters; 18 days in consultation on legal matters; 92 days traveling on duty; 124 days on sick list; 105 days legal holidays; 43 days attending court; 6½ days at mine fires; 170½ days on Mine Foremen's Examining Boards; 20 days attending mine inspectors' examination; 28½ days attending funerals; 2 days on account of deaths in families; 100 days on vacation; 41 days on private business; a total of 6,459 days, or 308 days a year for each of the 21 inspectors.

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## ACCIDENTS

The accident record for 1915 was comparatively a good one, being very close to the remarkable record of 1914 when the number of fatalities was the lowest for several years. There were 1,030 fatal accidents in 1915 as against 1,013 in 1914, of which 588 occurred in the anthracite region and 442 occurred in the bituminous region. The year 1914 had the exceptional good fortune to pass without any great catastrophes, while the year 1915 was marred by three serious explosions of gas and dust, one in the anthracite region and two in the bituminous region, by which forty-one persons were killed.

In the seventh anthracite district an explosion of gas occurred at the Prospect colliery of the Lehigh Valley Coal Company, February 17, by which thirteen persons were killed.

A brief history of this catastrophe is given herewith.

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## EXPLOSION OF GAS AT THE PROSPECT COLLIERY

The Prospect Colliery of the Lehigh Valley Coal Company is situated in the Seventh Anthracite District, Luzerne county, Inspector T. J. Williams.

An explosion occurred in the Red Ash vein, No. 10 slope of this colliery at 12 o'clock noon, February 17, causing the death of thirteen men and boys. This catastrophe was caused by a rush of coal in chamber No. 3 by which a body of gas was forced down on the naked light of a miner who was sitting at some distance from the face.

The report of the inspector of the district, T. J. Williams, is printed herewith together with the verdict of the Coroner's Jury. Immedi-







ately after the explosion an examination was made of the mine by Inspectors S. J. Jennings, Joseph J. Walsh and D. T. Davis in company with Inspector T. J. Williams.

The reports and inquest relating to the case are printed herewith, together with a tracing of the mine.

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### REPORT OF INSPECTOR T. J. WILLIAMS

On February 17, 1915, a disastrous explosion occurred in the Red Ash vein of the Prospect colliery at No. 10 Slope, at about 12.00 o'clock, noon, causing the death of 13 men and boys, 8 of whom were instantly killed, 1 died the same day, and 4 died the next day.

When I arrived at the shaft I was met by Thomas Thomas, General Mining Superintendent. We went inside to the scene of the accident and were informed that all of the dead and injured had been taken outside, with the exception of Daniel Souhak, laborer, who was still missing. He worked in chamber No. 4, road No. 788. We made a diligent search for the body, but it was not found until the next day, Thursday, at about 5.00 p. m.

The Assistant Foreman in making his usual morning examination found each and every place in this vicinity clear of gas and in a safe condition to be worked. At about 12.00 o'clock, noon, a rush of coal occurred in chamber No. 3 and forced a body of gas down on the naked light of John Lacavitch, a miner, who was sitting at his box 175 feet from the face, causing the explosion.

The force of the explosion traveled through the heading of No. 4 chamber, down chamber No. 3, through heading to chamber No. 2, into chamber No. 1 and down chamber No. 1, destroying in its path all walls, doors, brattices and stoppings. This force was also expended through chambers No. 5 and No. 6 to the reserve pillar. Inside of the reserve pillar, while considerable damage was done in the destruction of walls and brattice, it is apparent that the force exerted in this section was not as destructive as that outside of this pillar. This was due in a large measure to the fact that the force found a resistance too great, owing to the few openings through the reserve pillar, and its effect was localized in chambers 1 to 6 inclusive.

At the foot of chamber No. 1 and inside of the loaded branch on road No. 797A a masonry wall had been built some distance in the heading. The space outside of this wall formed a convenient location for runners and drivers to eat their lunch. This point was also opposite the empty car branch, on which there were standing at the time of the explosion three empty cars. The force of the explosion traveled down No. 1 chamber taking with it all the doors and walls. The runners were evidently sitting down, while David Owens, from the west side of the slope, who had apparently just reached the scene at that instant, probably faced the explosion. The flying debris from the walls threw the boys to the opposite side of the road against the cars killing them instantly, with the exception of David Owens whose death occurred a short time after being removed to the foot of the slope.

The Inside Foreman and his assistants in the rescue work found the following persons killed: John Seranick, Patrick Gavin, (Runners); Bruno Lishinski, Mike Michalo, (Drivers); John Darutis, August Wolgast, (Doorboys); John Kabaliski and Daniel Souchak, (Laborers). David Owens died the same day. The following died the next day: Louis Shaka, Miner; John Beelask, Laborer; John Lacavitch and Thomas Broszynyn, Miners.

The flame of the explosion traveled through the heading from chamber No. 3 into chamber No. 2, leaving a fire burning at the outside rib near the face. This was discovered immediately after the rescue of the men. Owing to the heat of the fire and the force of the explosion the face of chamber No. 2 was badly caved which proved to be quite a hindrance to the work of fighting the fire. Owing to the unusual height of the vein, which averaged about 18 feet, there is little doubt that the walls, doors, etc., were unable to offer enough resistance to confine the destruction to these immediate chambers. This was proved by the fact that a number of walls were badly bulged from the force of the explosion.

As a precaution and to prevent the accumulation of gas from being conducted over the fire, it was necessary to build walls and stoppings, 11 in number, so as to conduct the air up chamber No. 3 through the headings to chambers Nos. 4, 5 and 6 and then to road No. 814 and to the west side of the slope. Constant examination was being made to ascertain the condition of the workings east of the fire. It was then decided to drive a heading to the face of chamber No. 2 from the face of chamber No. 1. A heading 5 x 8 feet was driven a distance of 40 feet in ten hours time. A connection was made with the main fire line on the slope and conducted through the heading to the fire, which was the means of putting it out in a very short time. It was then decided to drive a heading from road No. 797A to the face of chamber No. 4 in order that the ventilation might be carried from the workings and not conducted to the vicinity of the fire. The driving of this heading proved to be an important factor in the complete restoration of the ventilation. Due to the hazardous conditions existing after the explosion, namely, fire, bad roof and gas accumulation, the officials in charge should be commended for having restored this section of the mine to its normal condition without any injury whatever to any of the employees.

The exact cause of this explosion will probably never be known. The subsequent examination made by Mine Inspectors S. J. Jennings, Joseph J. Walsh, D. T. Davis and myself on the 19th instant, of the face of chamber No. 3, revealed a slip in the vein pitching at an angle of 35 or 40 degrees and starting about 10 feet from the bottom and running up from the face of the top rock. The thickness of the vein at this point is about 18 to 20 feet. The rush of coal off the slip was probably due to either an accluded body of gas of sufficient force to cause the coal to rush, or to the fact that the miner had fired a hole on the west side of the chamber fracturing the top coal to the slip and causing it to rush; but in either event the force of the rush of coal was sufficient to force the gas to travel with the air a distance of about 175 feet to the miner's box where it was ignited from the miner's lamp. This theory is supported by the statement of John Lacavitch who was the miner in chamber No. 3 and who was found in the section between the main doors as he was walking out.

When questioned by the Mine Foreman he made the following statement: "Rush of coal and cave came in my place and the gas lit on my lamp at the box."

An inquest was held by Coroner Marley, March 11, 1915, and the following verdict given: "That on February 17, 1915, a body of gas was ignited which exploded, causing the death of John Lacavitch and 12 others. The evidence further shows that the place where the accident happened had been gaseous before this time and that the gas on this occasion arose from a slide. The evidence further shows that the miners working in and about this place with their laborers, had been allowed to use naked lamps. From all the evidence we find that the deceased and 12 others came to their death at the Prospect Mine of the Lehigh Valley Coal Company on February 17, 1915, from injuries resulting from a gas explosion, and from all the evidence we find the officials of the company neglectful in allowing naked lamps to be used in gaseous workings instead of demanding the use of safety lamps, and furthermore we recommend the use of the new electric safety lamps that recently passed a successful test by the Federal Bureau of Mines and were approved by the Pennsylvania Department of Mines for use in gaseous mines. We believe that in all workings, workmen should be provided with ample light, especially in veins where the coal is from 16 to 20 feet in height."

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### CAUSES AND LOCATION OF FATAL ACCIDENTS

The records for the year show that as usual the two principal causes of fatal accidents in the anthracite mines were (1) falls of coal, slate and roof, and (2) cars. The total number of inside fatal accidents was 527, of which 268 or 50.85 per cent. were caused by falls of coal, slate and roof, and 81 or 15.37 per cent. by cars. The other causes were explosions of gas, 33 or 6.26 per cent.; explosions of powder and dynamite, 8 or 1.52 per cent.; electricity, 4 or .76 per cent.; blasts, 69 or 13.09 per cent.; falling into shafts and slopes, suffocation by gas and miscellaneous causes, 64 or 12.15 per cent.

The accidents by falls of coal occurred as follows: at face of working places, 41; at pillar work, 18; on gangways while timbering and repairing, 2; in heading, 1; a total of 62, or 23.13 per cent. By falls of slate at face of workings, 27; at pillar work, 9; on gangways while timbering and repairing, 1; in old workings, 1; a total of 38, or 14.18 per cent. By falls of roof at face of workings, 122; at pillar work, 30; on gangways while timbering and repairing, 10; in old workings, 2; on slopes, 3; in heading, 1; a total of 168 or 62.69 per cent.

The total number of fatal accidents by falls of coal, slate and roof at face of working places was 190, or 70.89 per cent. of all accidents from falls; at pillar work, 57 or 21.27 per cent.; on gangways while timbering and repairing, 13 or 4.85 per cent.; in heading, 2 or .75 per cent.; in old workings, 3 or 1.12 per cent.; on slopes while timbering and repairing, 3 or 1.12 per cent.

Eighty-one persons were killed by cars, 50 of whom were killed on gangways, 12 on slopes, and 19 at other places.

Sixty-nine persons were killed by blasts, and eight were killed by explosions of powder and dynamite on gangways and at other places.



Of the accidents on the surface, 28 or 45.90 per cent. were caused by cars; 10 or 16.39 per cent. by machinery, and 23 or 37.71 per cent. by other causes.

The table submitted herewith shows the accidents in each inspection district by falls and other causes.

These reports show 165 miners killed by falls; 116 or 70.30 per cent. were killed at face of working places; 42 or 25.46 per cent. while removing pillars; 5 or 3.03 per cent. on gangways while timbering and repairing and 2 or 1.21 per cent. in cross headings. Of the 165 fatalities, 105 or 63.64 per cent. were due to the carelessness or ignorance of the victims, 1 or .60 per cent. to the carelessness of others and 59 or 35.76 per cent. were unavoidable.

Four miners were killed by cars; 2 or 50.00 per cent. on gangways and 2 or 50.00 per cent. in chambers. Of the 4 fatalities, 3 or 75.00 per cent. were due to the carelessness or ignorance of the victims and 1 or 25.00 per cent. was unavoidable.

Fifteen miners were killed by explosions of gas: 13 or 86.66 per cent. of whom were in chambers; 1 or 6.67 per cent. in gangway and 1 or 6.67 per cent. in crosscut. Of the 15 fatalities, 7 or 46.67 per cent. were due to the carelessness or ignorance of the victims, 2 or 13.33 per cent. to the carelessness or ignorance of others, 3 or 20.00 per cent. were unavoidable and 3 or 20.00 per cent. responsibility not defined.

Eight miners were killed by explosions of powder and dynamite: 5 or 62.50 per cent. were killed at face of workings; 2 or 25.00 per cent. on gangways and 1 or 12.50 per cent. in crosscut. The 8 fatalities were due to the carelessness or ignorance of the victims.

Fifty-four miners killed by blasts. Of the 54 fatalities, 46 or 85.19 per cent. were due to the carelessness or ignorance of the victims and 8 or 14.81 per cent. were unavoidable.

One miner killed by falling down chamber, the accident was unavoidable.

Three miners killed by falling down manway; 2 or 66.67 per cent. were due to the carelessness or ignorance of the victims and 1 or 33.33 per cent. was unavoidable.

One miner killed by falling down pumpway, the accident was unavoidable.

Two miners killed by falling down chutes; 1 or 50.00 per cent. was due to the carelessness or ignorance of the victim and 1 or 50.00 per cent. was unavoidable.

Three miners killed, crushed at batteries; 1 or 33.33 per cent. was due to the carelessness or ignorance of the victim and 2 or 66.67 per cent. were unavoidable.

Two miners killed by electricity on gangway, through their own carelessness.

Four miners suffocated by gas through their own carelessness.

One miner suffocated by smoke through his own carelessness.

One miner suffocated by rush of culm in chamber through his own carelessness.

Two miners killed, struck by coal; 1 or 50.00 per cent. due to the carelessness of the victim and 1 or 50.00 per cent. was unavoidable.

Two miners killed, struck by rock, the accidents were unavoidable.

Three miners killed, struck by timber, the accidents were unavoidable.

One miner killed, struck by sheet iron, through his own carelessness.

One miner killed, struck by windlass, through his own carelessness.

One miner killed, rush of gob, through his own carelessness.

One miner killed, drowned in watercourse, through his own carelessness.

Six miners killed, by rush of coal; 2 or 33.33 per cent. were due to the carelessness or ignorance of the victims and 4 or 66.67 per cent. were unavoidable.

The total number of miners killed was 281, of whom 189 or 67.26 per cent. were killed through their own carelessness or ignorance, 3 or 1.07 per cent. through the carelessness of others, 86 or 30.60 per cent. were unavoidable and 3 or 1.07 per cent. responsibility not defined.

Eighty-eight miners' laborers killed by falls, 69 or 78.41 per cent. of whom were killed at face of workings; 14 or 15.91 per cent. while removing pillars; 3 or 3.41 per cent. on gangways while timbering and repairing and 2 or 2.27 per cent. in old workings. Of the 88 fatalities, 38 or 43.18 per cent. were due to the carelessness or ignorance of the victims, 16 or 18.18 per cent. to the carelessness or ignorance of others, 33 or 37.50 per cent. were unavoidable and 1 or 1.14 per cent. responsibility not defined.

Twenty-two miners' laborers killed by cars, 9 or 40.91 per cent. of whom were killed on gangways; 4 or 18.18 per cent. in chambers; 5 or 22.73 per cent. on slopes; 2 or 9.09 per cent. on planes and 2 or 9.09 per cent. on drifts. Of the 22 fatalities, 18 or 81.82 per cent. were due to the carelessness or ignorance of the victims, 1 or 4.54 per cent. to the carelessness of others and 3 or 13.64 per cent. were unavoidable.

Eight miners' laborers killed by explosions of gas, 6 or 75.00 per cent. of whom were killed in chambers and 2 or 25.00 per cent. on gangways. Of the 8 fatalities, 3 or 37.50 per cent. were due to the carelessness or neglect of the victims, 1 or 12.50 per cent. to the carelessness of others, 1 or 12.50 per cent. were unavoidable and 3 or 37.50 per cent. responsibility not defined.

Eleven miners' laborers were killed by blasts. Of the 11 fatalities 9 or 81.82 per cent. were due to the carelessness or ignorance of the victims, 1 or 9.09 per cent. to the carelessness of others and 1 or 9.09 per cent. were unavoidable.

One miner's laborer electrocuted on gangway through his own carelessness.

One miner's laborer suffocated by coal in chute through his own carelessness.

One miner's laborer suffocated by rush of coal through the carelessness of others.

One miner's laborer suffocated by smoke through his own carelessness.

Two miners' laborers killed by falling down shaft through their own carelessness.

One miner's laborer killed by falling down chamber, accident was unavoidable.

One miner's laborer killed by falling down chute through his own carelessness.

One miner's laborer killed by falling into sump through his own carelessness.

One miner's laborer killed, struck by piece of rock, the accident was unavoidable.

Two miners' laborers killed, struck by piece of coal, the accidents were unavoidable.

One miner's laborer killed, struck by timber, the accident was unavoidable.

One miner's laborer killed by a rush of water from culm pipe through his own carelessness.

The total number of miners' laborers killed was 143, of whom 76 or 53.14 per cent. were due to the carelessness or ignorance of the victims, 20 or 13.98 per cent. to the carelessness of others, 43 or 30.08 per cent. were unavoidable and 4 or 2.80 per cent. responsibility not defined.

Forty drivers and runners were killed. Of this number 20 or 50.00 per cent. were killed by cars on gangway; 2 or 5.00 per cent. by cars in tunnel; 3 or 7.50 per cent. by cars on slopes; 1 or 2.50 per cent. by cars on plane; 1 or 2.50 per cent. by cars at foot of shaft; 1 or 2.50 per cent. by fall at face of workings; 5 or 12.50 per cent. by explosions of gas in chambers; 1 or 2.50 per cent. by explosions of gas in old workings; 2 or 5.00 per cent. by explosions of blasts; 1 or 2.50 per cent. by rush of coal in chute; 1 or 2.50 per cent. by being kicked by a mule; 1 or 2.50 per cent. by being scalded in sump and 1 or 2.50 per cent. by falling into slope. Of the 40 fatalities, 24 or 60.00 per cent. were due to the carelessness or ignorance of the victims, 1 or 2.50 per cent. to the carelessness of others, 10 or 25.00 per cent. were unavoidable and 5 or 12.50 per cent. responsibility not defined.

Eight company men were killed. Of this number 2 or 25.00 per cent. were killed by falls on gangway while timbering and repairing; 2 or 25.00 per cent. were killed by cars on gangway; 1 or 12.50 per cent. by electricity; 1 or 12.50 per cent. by falling down shaft; 1 or 12.50 per cent. by falling down chute and 1 or 12.50 per cent. by being struck by timber. Of the 8 fatalities, 7 or 87.50 per cent. were due to the carelessness or ignorance of the victims and 1 or 12.50 per cent. were unavoidable.

Fifty-five other persons were killed, including 1 mine foreman, 4 assistant mine foremen, 1 fire boss, 10 doorboys and helpers, 1 doorman, 3 brakemen, 2 footmen, 5 rockmen, 1 pillar boss, 2 carpenters, 4 machine runners, 2 motormen, 2 engineers, 1 headman, 6 timbermen, 1 road cleaner, 1 trackman, 1 patcher, 2 drillers, 2 bottommen, 1 loader, 1 machinist and 1 fan turner. Of the 55 fatalities, 29 or 52.73 per cent. were due to the carelessness or ignorance of the victims, 2 or 3.64 per cent. to the carelessness of others, 21 or 38.18 per cent. were unavoidable and 3 or 5.45 per cent. responsibility not defined.

Of the 527 accidents that occurred inside the mines, 325 or 61.67 per cent. are attributed to the carelessness or ignorance of the victims themselves, 26 or 4.93 per cent. to the carelessness of others, 161 or 30.55 per cent. were unavoidable and 15 or 2.85 per cent. responsibility not defined.





Causes and Location of Fatal Accidents, by Districts, 1915—Continued

	Districts																			Totals
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
Inside																				
Machinery, .....																				1
Electricity, .....		1			1												3			4
Struck by piece of rock, .....			1						1											3
Struck by piece of coal, .....							1													1
Struck by windlass, .....												1								1
Struck by timber, .....									1										1	6
Struck by rope, .....										1										1
Struck by sheet iron, .....													1							1
Rush of water, .....															1					1
Rush of gob, .....								1						2	1		1	2		7
Rush of coal, .....																	1			1
Scalded by falling into sump, .....	1																			1
Fell into sump, .....																				1
Drowned in watercourse, .....																				1
Cause unknown, .....																				1
Totals, .....	32	29	24	29	15	45	60	22	39	24	22	11	23	10	15	21	21	21	25	527
Outside																				
Cars, .....																				
Machinery, .....		2	1			2	5			2	4			1	2	1	2	1	3	28
Electricity, .....	3	2	1										1	2			1	1		10
Boiler explosions, .....																				1
Falling off ladder, .....																		2		2
Falling under coal wagon, .....	1							1												1
Falling in breaker, .....														1				1	1	3
Suffocated by rush of clay and sand, .....																				1
Suffocated by rush of coal, .....									1											1
Suffocated by gas, .....																				1
Struck by piece of coal, .....											2									1
Struck by timber, .....									1											1
Struck by rope, .....													1							2
Struck by spool of rope, .....																				1
Struck by shaft guide, .....																	1			1
Struck by windlass, .....																		1		1
Jumping off ash cart, .....								1						1						1
Rush of earth, .....														1						1
Clothing caught fire, .....																				1
Scalded by steam, .....						3	5	2	2	2	6		2	6	2	1	7	4	5	61
Totals, .....	6	4	2					2	2	2	6		2	6	2	1	7	4	1	1
Grand totals inside and outside, .....	38	33	26	29	15	48	65	24	41	26	28	11	30	16	17	22	28	25	30	538



# CAUSES AND LOCATION OF FATAL ACCIDENTS INSIDE, 1910-1915, INCLUSIVE

This table shows that the causes of accidents and the places they occur are very much the same from year to year. This is especially true of falls of coal, slate and roof that occur at the face, while removing pillars, while repairing gangways or while working at the face of gangways.

The accidents by cars and the explosions of blasts occur from year to year in about the same way and at the same relative places.

During the period covered by the table 1,512 fatal accidents inside were caused by falls or 46.67 per cent. of the total number; 505 by cars, or 15.59 per cent. of the total number; 385 by blasts, or 11.88 per cent. of the total number; 100 by powder explosions, or 3.08 per cent. of the total number and only 213 by explosions of gas, or 6.58 per cent. of the total number.

Most of the victims could have been saved had they used ordinary precaution.

The accidents from blasts and explosives number 18 per cent. and are chargeable directly to the miner who extracts the coal. Of the 2,017 accidents by falls and cars, at least one-half could have been prevented by proper prudence and care on the part of the victims or others.

Causes and Location of Fatal Accidents, Inside, 1910-1915, Inclusive

	1910	1911	1912	1913	1914	1915	Totals	Percentages as to location	Percentages of fatal accidents inside
By falls of coal, slate and roof									
At face of working places, .....	173	166	153	197	170	190	1,049	69.38	32.38
At pillar work, .....	31	44	37	34	36	57	239	15.81	7.38
On gangways, while timbering and repairing, .....	24	20	36	14	13	13	120	7.94	3.70
Back in chambers, .....	21	15	4	.....	.....	.....	40	2.64	1.24
On slopes, .....	2	1	1	2	3	3	12	.79	.37
At cross headings, .....	2	2	4	4	2	2	16	1.05	.49
In old workings, .....	.....	1	3	.....	1	3	3	.53	.25
In chutes, .....	.....	1	4	.....	.....	.....	5	.33	.16
In tunnels, .....	.....	1	.....	1	.....	.....	2	.13	.06
In strange chambers, .....	.....	2	.....	.....	.....	.....	2	.13	.06
In airways, .....	.....	.....	1	.....	.....	.....	3	.20	.09
At bottom of slopes, .....	.....	.....	1	1	.....	.....	2	.13	.06
On planes, .....	.....	.....	1	.....	.....	.....	1	.07	.03
In sumps, .....	.....	.....	1	.....	.....	.....	1	.07	.03
While riding on cars on gangways, .....	.....	.....	.....	6	5	.....	11	.73	.34
In pump house, .....	.....	.....	.....	.....	1	.....	1	.07	.03
Totals and percentages, .....	253	253	246	261	231	268	1,512	100.00	46.67
By cars									
On gangways, .....	57	47	55	40	45	50	294	58.22	9.07
In chambers, .....	6	11	2	9	6	8	42	8.32	1.30
On slopes, .....	17	18	14	20	13	12	99	19.60	3.06
At foot of shafts, .....	2	4	2	2	1	1	12	2.37	.37
At foot of slopes, .....	8	5	2	4	2	.....	21	4.16	.65
At dump chutes, .....	2	2	.....	.....	.....	.....	4	.79	.12
In tunnels, .....	.....	3	1	6	3	4	17	3.37	.53
At mouth of drifts, .....	.....	1	.....	.....	.....	.....	1	.20	.03
On planes, .....	.....	1	2	5	1	4	13	2.57	.40
In drifts, .....	.....	.....	.....	.....	.....	1	1	.20	.03
At foot of planes, .....	.....	.....	.....	.....	.....	1	1	.20	.03
Totals and percentages, .....	92	92	78	86	76	81	505	100.00	15.59

## Causes and Location of Fatal Accidents, Inside, 1910-1915, Inclusive--Continued

	1910	1911	1912	1913	1914	1915	Totals	Percentages as to location	Percentages of total accidents inside
By explosions of gas									
In chambers, .....	14	13	22	20	31	28	123	60.09	3.95
On gangways, .....	3	9	3	2	.....	3	20	9.39	.62
In old workings, .....	2	3	9	4	3	2	23	10.80	.71
On slopes, .....	1	.....	.....	1	1	.....	3	1.41	.09
In cross headings, .....	.....	4	.....	.....	.....	.....	5	2.35	.16
In tunnels, .....	.....	5	.....	20	1	.....	26	12.21	.80
In manways, .....	.....	.....	1	.....	7	.....	8	3.75	.25
Totals and percentages, .....	20	34	35	48	43	33	213	100.00	6.58
Suffocated by gas, etc., .....	13	*36	5	10	12	10	136	100.00	4.20
By explosions of powder and dynamite									
At face of working places, .....	9	6	9	8	11	5	48	48.00	1.48
On gangways, .....	.....	13	12	1	.....	2	28	28.00	.86
In cross headings, .....	7	2	4	1	2	1	17	17.00	.53
In tunnels, .....	1	.....	.....	1	.....	.....	2	2.00	.06
Location not given, .....	5	.....	.....	.....	.....	.....	5	5.00	.15
Totals and percentages, .....	22	21	25	11	13	8	100	100.00	3.08
By explosions of blasts									
At face of working places, .....	48	59	46	52	76	69	350	90.91	10.80
On gangways, .....	6	1	.....	3	.....	.....	10	2.60	.31
At pillar work, .....	4	1	.....	.....	.....	.....	5	1.30	.16
In cross headings, .....	1	6	4	5	.....	.....	16	4.15	.49
In tunnels, .....	1	.....	.....	.....	.....	.....	1	.26	.03
In old workings, .....	.....	.....	1	.....	.....	.....	1	.26	.03
On planes, .....	.....	.....	.....	2	.....	.....	2	.52	.06
Totals and percentages, .....	60	67	51	62	76	69	385	100.00	11.88
Falling into shafts, slopes, etc., ..	19	21	18	30	47	19	154	.....	4.75
Crushed at batteries, .....	3	5	4	3	3	3	21	.....	.65
By electricity, .....	3	2	5	1	1	4	16	.....	.49
By machinery, .....	2	4	.....	2	.....	1	9	.....	.28
Miscellaneous causes, .....	22	30	31	43	32	31	189	.....	5.83
Grand totals and percentages, .....	509	615	498	557	534	527	3,240	.....	100.00

\*Pancoast disaster; 72 men killed.

## COMPARATIVE TABLE OF ACCIDENTS

## Pennsylvania-United States, 1899-1903-1908-1915

In 1899 the number of employes inside and outside the mines of the United States, not including the bituminous and anthracite mines of Pennsylvania, was 178,526. The production of coal was 120,155,918 net tons. The number of lives lost was 497 or 2.78 per 1,000 employes. The number of lives lost per 1,000,000 tons produced was 4.14, and for every life lost 214,763 tons were produced.

In 1899 the number of employes inside and outside the anthracite mines of Pennsylvania was 140,604. The production of coal was 60,518,331 tons. The number of lives lost was 461 or 3.28 per 1,000 employes. The number of lives lost per 1,000,000 tons produced was 7.62, and for every life lost 131,276 tons were produced.

In 1903 the number of employes inside and outside the mines of the United States was 262,688, not including any Pennsylvania mines, an increase of over 47 per cent. over 1899. The production was 178,409,849 tons, an increase of over 48 per cent. The number of lives lost was 832, an increase of over 67 per cent.

In 1903 the number of employes inside and outside the anthracite mines of Pennsylvania was 151,827, an increase of over 7 per cent. over 1899. The production was 75,232,585 tons, an increase of over 24 per cent. The number of lives lost was 518, an increase of over 12 per cent.

In 1908 the number of employes inside and outside the mines of the United States was 334,095, not including any Pennsylvania mines, an increase of over 87 per cent. over 1899. The production was 217,362,080 tons, an increase of over 80 per cent. The number of lives lost was 1,199, an increase of over 141 per cent.

In 1908 the number of employes inside and outside the anthracite mines of Pennsylvania was 174,503, an increase of over 24 per cent. over 1899. The production was 83,543,243 tons, an increase of over 38 per cent. The number of lives lost was 678, an increase of over 47 per cent.

In 1915 the number of employes inside and outside the mines of the United States, not including any Pennsylvania mines, was 393,000, an increase of over 120 per cent. over 1899. The production was 271,000,000 tons, an increase of over 125 per cent. The number of lives lost was 1,236, an increase of over 149 per cent.

In 1915 the number of employes inside and outside the anthracite mines of Pennsylvania was 177,339, an increase of over 27 per cent. over 1899. The production was 89,377,706 tons, an increase of over 47 per cent. The number of lives lost was 588, an increase of over 27 per cent.

During the seventeen years, 1899-1915, inclusive, the number of employes inside and outside the mines of the United States, not including any Pennsylvania mines, was 5,602,421. The production was approximately 3,701,741,947 tons. The number of lives lost was 20,302 or 3.62 per 1,000 employes and 5.48 per 1,000,000 tons produced. The production per life lost was 182,334 tons.

During the same period, the number of employes in the anthracite mines of Pennsylvania was 2,792,435. The production was 1,306,976,649 tons. The number of lives lost was 9,665 or 3.46 per 1,000 employes and 7.39 per 1,000,000 tons produced. The production per life lost was 135,228 tons.

If the fatal accidents in the anthracite mines of Pennsylvania had averaged the same as in the United States, the number would have been 10,109 instead of 9,665, an increase of 444 accidents. If the fatal accidents in the United States had averaged the same as in Pennsylvania, the number would have been 19,384 instead of 20,302, a decrease of 918.

Comparative Table of Accidents, 1899-1915, Inclusive

Years	United States						Pennsylvania					
	Production	Employees	Fatal accidents	Lives lost per 1,000 employees	Lives lost per 1,000,000 tons produced	Production per life lost	Production	Employees	Fatal accidents	Lives lost per 1,000 employees	Lives lost per 1,000,000 tons produced	Production per life lost
1899.	190,155,918	178,526	497	2.78	4.14	214,753	60,518,331	140,604	461	3.28	7.62	131,276
1900.	133,002,269	195,922	816	4.16	6.13	162,993	57,363,396	143,824	411	2.86	7.16	139,570
1901.	145,290,915	220,392	735	3.33	5.06	197,675	67,094,665	147,651	513	3.47	7.65	130,789
1902.	161,720,382	234,447	1,139	4.86	7.04	214,985	41,340,935	148,139	300	2.03	7.26	137,803
1903.	178,409,849	262,638	832	3.17	4.67	214,435	75,232,585	151,827	518	3.41	6.89	145,237
1904.	178,621,862	276,616	873	3.16	4.89	204,607	73,594,369	151,330	595	3.69	8.08	123,688
1905.	194,714,101	292,840	1,109	3.79	5.70	175,576	78,647,020	168,254	644	3.83	8.19	122,123
1906.	212,484,779	301,677	1,082	3.79	5.09	196,381	72,139,510	166,175	557	3.86	8.72	129,514
1907.	244,747,965	328,597	1,683	6.12	6.88	145,424	86,066,412	163,774	708	4.29	8.25	123,290
1908.	217,362,030	334,095	1,199	5.39	5.32	181,286	85,543,243	174,163	638	3.68	8.75	123,290
1909.	244,385,088	309,439	1,595	4.48	6.32	158,319	83,683,994	168,175	567	3.31	7.07	141,488
1910.	263,141,632	276,357	1,505	4.64	5.72	174,827	90,917,176	173,338	699	4.03	7.13	139,241
1911.	289,209,219	364,922	1,313	3.60	4.64	220,566	84,436,869	175,098	601	3.43	7.12	140,477
1912.	289,209,219	364,922	1,313	3.60	5.07	197,068	91,626,964	175,310	624	3.56	6.81	146,833
1913.	305,435,502	382,425	1,550	4.95	5.27	189,795	91,189,641	180,899	600	3.32	6.58	151,982
1914.	272,925,829	365,931	1,438	3.83	5.27	189,795	89,377,706	177,339	588	3.32	6.58	152,003
1915.	*271,000,000	*393,000	*1,236	3.15	4.56	219,256						
Totals and averages, .....	3,701,741,947	5,602,421	20,302	3.62	5.43	182,334	1,306,976,649	2,792,435	9,665	3.46	7.39	135,228

\*Estimated.

Total production in tons of 2,000 pounds, employes, fatalities, ratio killed per 1,000 employes and the production per life lost in the coal mines of each State in the Union, 1914

	Production in tons of 2,000 pounds	Employes inside and outside	Fatal accidents inside and outside	Lives lost per 1,000 employes	Production per life lost
Pennsylvania Bituminous, .....	145,884,530	196,038	413	2.11	353,231
Pennsylvania Anthracite, .....	91,189,641	180,839	600	3.32	151,982
West Virginia, .....	71,707,626	78,963	556	7.04	123,971
Illinois, .....	67,589,197	79,499	193	2.43	298,390
Kentucky, .....	20,382,763	28,764	61	2.12	334,144
Ohio, .....	18,843,115	45,401	64	1.41	294,424
Indiana, .....	16,641,132	23,175	44	1.90	378,208
Alabama, .....	15,593,422	24,042	128	5.32	121,824
Colorado, .....	8,170,559	10,098	75	7.43	108,941
Virginia, .....	7,959,535	9,183	27	2.94	294,798
Iowa, .....	7,451,022	16,067	37	2.30	201,379
Kansas, .....	6,860,988	12,448	33	2.65	207,909
Wyoming, .....	6,475,293	8,117	51	6.28	126,967
Tennessee, .....	5,943,258	10,116	26	2.57	228,587
Maryland, .....	4,133,547	5,468	18	3.33	229,642
Oklahoma, .....	3,988,613	8,078	31	3.84	128,665
Missouri, .....	3,935,980	9,549	19	1.99	207,157
New Mexico, .....	3,877,689	4,178	18	4.31	215,427
Utah, .....	3,103,036	4,112	22	5.35	141,047
Washington, .....	3,064,820	5,805	17	2.93	180,284
Montana, .....	2,805,173	3,350	8	2.39	350,647
Texas, .....	2,323,773	4,635	11	2.37	211,252
Arkansas, .....	1,836,540	4,339	11	2.54	166,958
Michigan, .....	1,283,030	2,800	2	.71	641,515
North Dakota, .....	506,685	558	3	5.38	168,395
Georgia and North Carolina, .....	166,498	355	1	2.82	166,498
Oregon, .....	51,558	190	1	5.26	51,558
California and Alaska, .....	11,692	36	.....	.....	.....
Totals and averages, .....	511,780,715	776,188	2,470	3.18	207,199

Note.—The Department points with pride to the record of only 2.11 lives lost for every 1,000 employes. This is an unusually good record. The production of 353,231 tons per fatal accident is also especially good as compared with the record of any other state of the Union or with any other country.

The Pennsylvania production of anthracite and bituminous coal was 237,074,171 tons, or about 46 per cent. of the total production in the United States, and only about 6,000,000 tons less than the production of Great Britain.

The employes in the mines of Pennsylvania comprise a fraction less than 50 per cent. of the total number of inside employes in the United States, while the fatalities numbered 1,013 out of a total of 2,470, or about 41 per cent.



Table showing companies that had fatal accidents inside or outside their mines; causes of accidents; fatalities per 1,000 employees, and per 1,000,000 tons produced, 1915

Companies	Production net tons	Employees inside	Causes of Fatal Accidents Inside				Total fatal accidents inside	Fatalities inside per 1,000 employees	Fatalities inside per 1,000,000 tons produced	Employees outside	Causes of Fatal Accidents Outside				Total fatal accidents outside	Grand total fatal accidents inside and outside	Grand total employees	Fatalities inside and outside per 1,000 employees	Fatalities inside and outside per 1,000,000 tons produced
			Falls	Cars	Gas	Miscellaneous causes					Cars	Machinery	Electricity	Miscellaneous causes					
Philadelphia and Reading Coal and Iron Company, .....	11,033,100	17,707	35	15	6	13	69	3.90	6.25	7,220	3	1	....	....	4	73	24,927	2.38	6.62
Delaware, Lackawanna and Western Railroad Company, .....	10,251,060	17,148	31	9	2	12	54	2.15	5.97	3,962	1	....	....	....	4	58	20,510	2.83	5.65
Delaware and Hudson Company, .....	8,551,052	11,539	23	13	....	16	73	2.05	7.33	3,800	1	....	....	....	8	80	18,782	8.12	8.12
Lehigh Valley Coal Company, .....	8,551,315	11,539	19	13	....	16	60	5.20	7.00	3,546	1	....	....	....	7	67	18,389	4.35	7.81
Lehigh Valley Coal Company, .....	6,102,517	9,088	20	8	....	17	36	3.95	5.90	2,674	1	....	....	....	3	39	11,762	3.22	6.39
Lehigh and Wilkes-Barre Coal Company, .....	5,915,488	8,290	15	4	3	15	37	4.48	6.25	2,241	1	....	....	....	3	39	10,601	3.77	6.76
Susquehanna Coal Company, .....	5,009,351	8,782	11	3	....	8	22	2.50	4.39	3,762	3	....	....	....	3	25	12,554	1.99	4.99
Lehigh Coal and Navigation Company, .....	4,586,022	5,645	4	1	1	13	19	3.37	4.14	2,507	2	1	....	....	4	25	8,152	3.19	5.67
Scranton Coal Company, .....	2,164,760	3,693	14	2	....	8	24	6.50	11.07	1,315	1	....	....	....	7	25	5,008	4.99	11.55
G. B. Markle Company, .....	1,902,590	1,918	4	....	1	2	6	3.13	3.15	867	2	....	....	....	4	10	2,785	3.59	5.26
Coxe Brothers and Company, Incorporated, .....	1,896,182	1,646	4	1	....	1	6	3.64	3.32	779	....	....	....	....	6	11	2,425	2.47	3.32
Hillsdale Coal and Iron Company, .....	1,726,400	2,772	2	4	....	15	11	4.16	6.45	654	....	....	....	....	3	11	3,634	3.03	6.37
Kingston Coal Company, .....	1,385,013	2,163	6	2	....	1	9	3.97	6.37	802	....	....	....	....	....	9	2,817	3.19	9.45
A. Pardee and Company, .....	771,064	1,073	1	....	....	....	1	4.83	6.41	488	....	....	....	....	....	1	1,521	1.92	7.72
Vorty Fort Coal Company, .....	697,632	1,024	1	1	....	2	4	4.53	6.18	278	1	....	....	....	1	5	1,202	4.16	7.72
West Virginia Coal Company, .....	644,138	683	1	....	....	....	2	3.13	3.10	355	....	....	....	....	....	3	1,183	2.01	3.10
Prairie Brothers Coal Company, Incorporated, .....	634,700	923	3	....	....	1	3	3.25	4.76	290	....	....	....	....	....	3	1,183	2.54	4.80
Temple Coal Company, .....	569,710	1,130	....	....	....	....	1	3.88	1.76	237	....	....	....	....	....	1	1,367	1.76	7.63
Price-Pancoast Coal Company, .....	526,056	768	....	....	....	....	3	5.75	6.06	435	....	....	....	....	....	4	1,203	3.32	7.63
Hartleigh-Brookwood Coal Company, .....	493,885	522	....	....	....	....	3	12.42	13.66	251	....	....	....	....	....	1	744	9.41	15.93
Dodson Coal Company, .....	433,255	433	4	1	....	3	6	2.67	2.41	178	....	....	....	....	....	7	585	5.13	7.30
C. M. Dodson and Company, .....	414,661	375	1	....	....	....	3	10.17	7.30	290	....	....	....	....	....	3	553	1.81	7.30
Maryd Coal Company, .....	410,846	285	2	1	....	....	4	11.53	9.74	148	....	....	....	....	....	3	501	7.30	18.17
Thomas Colliery Company, .....	410,821	353	3	....	....	....	3	11.50	7.50	138	....	....	....	....	....	3	855	7.50	18.17
Saint Clair Coal Company, .....	389,877	668	1	....	....	....	3	5.12	5.30	268	....	....	....	....	....	3	655	3.51	7.95
Mount Lookout Coal Company, .....	384,634	389	2	....	....	....	2	5.12	5.30	193	....	....	....	....	....	2	781	2.56	5.44
Lytle Coal Company, .....	377,375	339	1	....	....	....	2	5.12	5.30	193	....	....	....	....	....	2	781	2.56	5.44
Louis Mountain Coal Company, .....	369,481	588	1	....	....	....	2	5.12	5.30	193	....	....	....	....	....	2	781	2.56	5.44
Altco Coal Company, .....	369,481	588	1	....	....	....	2	5.12	5.30	193	....	....	....	....	....	2	781	2.56	5.44

Pine Hill Coal Company, .....	513	1	1	1	1	2	3	3	5	7	194	5.70	2.86	163	707	2.83	5.70
Connell Anthracite Mining Company, .....	349,912	364	1	1	1	1	1	1	1	1	158	2.86	1.88	532	1	1.88	2.86
Lackawanna Coal Company, Limited, .....	345,522	574	1	1	1	1	1	1	1	1	158	2.89	1.57	752	1	1.57	2.89
Midvalley Coal Company, .....	332,530	335	1	1	1	1	1	1	1	1	179	3.01	1.94	514	1	1.94	3.01
Oak Hill Coal Company, .....	332,461	400	2	1	1	1	1	1	1	1	210	13.16	11.47	610	1	11.47	21.05
Buck Run Coal Company, .....	320,986	451	1	1	1	1	1	1	1	1	141	2.22	3.11	592	1	3.11	2.22
Colonial Collieries Company, .....	293,887	365	1	1	1	1	1	1	1	1	175	9.88	1.85	591	1	1.85	3.33
Shenandoah Red Ash Coal Company, .....	285,326	400	4	1	1	1	1	1	1	1	135	13.99	6.66	522	1	6.66	13.99
Shenandoah Coal Company, .....	273,080	430	1	1	1	1	1	1	1	1	142	10.98	5.75	535	1	5.75	10.98
Excelsior Coal Company, .....	269,504	416	1	1	1	1	1	1	1	1	143	7.21	2.53	425	1	2.53	7.21
Upper Lehigh Coal Company, .....	254,358	319	1	1	1	1	1	1	1	1	106	3.83	4.66	434	1	4.66	7.94
Peoples Coal Company, .....	251,750	378	1	1	1	1	1	1	1	1	56	2.65	5.01	536	1	5.01	12.72
Mooste Mountain Coal Company, .....	235,777	435	2	1	1	1	1	1	1	1	161	4.60	2.58	491	1	2.58	4.59
East Boston Coal Company, .....	235,392	392	1	1	1	1	1	1	1	1	238	4.36	2.08	480	1	2.08	4.66
Mount Jessup Coal Company, Limited, .....	229,392	392	1	1	1	1	1	1	1	1	78	4.52	1.59	491	1	1.59	4.52
Traders Coal Company, .....	221,239	413	1	1	1	1	1	1	1	1	290	.....	2.04	388	1	2.04	4.66
Grand Mammoth Coal Company, .....	218,065	98	1	1	1	1	1	1	1	1	120	4.66	2.35	425	1	2.35	4.66
Haddock Mining Company, .....	214,408	364	1	1	1	1	1	1	1	1	61	2.74	8.96	356	1	8.96	15.71
Wilkes-Barre Anthracite Coal Company, .....	192,408	311	1	1	1	1	1	1	1	1	215	5.85	2.97	482	1	2.97	5.85
Mill Creek Coal Company, .....	187,645	352	1	1	1	1	1	1	1	1	156	5.24	2.97	395	1	2.97	5.24
Ramb Coal Company, .....	168,220	250	1	1	1	1	1	1	1	1	84	4.00	2.62	376	1	2.62	6.06
Wilkes-Barre Colliery Company, .....	168,910	251	1	1	1	1	1	1	1	1	84	3.88	7.11	371	1	7.11	13.30
Archbald Coal Company, .....	162,629	284	3	1	1	1	1	1	1	1	92	17.60	30.74	371	1	30.74	7.11
George F. Lee Coal Company, .....	140,575	269	1	1	1	1	1	1	1	1	102	3.72	7.42	371	1	7.42	7.42
Buck Ridge Coal Mining Company, .....	134,830	310	1	1	1	1	1	1	1	1	102	8.91	8.21	276	1	8.21	8.91
White and Company, .....	112,207	154	1	1	1	1	1	1	1	1	82	6.49	2.42	200	1	2.42	10.54
Nay Aug Coal Company, .....	94,855	167	1	1	1	1	1	1	1	1	33	5.89	5.00	205	1	5.00	10.54
Campbell, Johns and Company, .....	86,711	143	1	1	1	1	1	1	1	1	62	13.88	23.06	205	1	23.06	23.06
Peoples Coal Company, .....	81,616	145	3	1	1	1	1	1	1	1	55	20.69	36.76	200	1	36.76	36.76
Eden Coal Company, .....	69,617	137	1	1	1	1	1	1	1	1	61	20.62	24.63	158	1	24.63	24.63
O'Boyle-Poy Anthracite Coal Company, .....	61,617	137	2	1	1	1	1	1	1	1	66	15.27	28.72	197	1	28.72	38.72
Secundaga Coal Company, .....	51,806	129	1	1	1	1	1	1	1	1	53	15.27	38.94	106	1	38.94	38.94
Ellsworth Coal Company, .....	38,347	77	1	1	1	1	1	1	1	1	23	18.62	34.82	130	1	34.82	34.82
Evans Colliery Company, .....	28,721	98	1	1	1	1	1	1	1	1	41	20.40	38.49	124	1	38.49	38.49
Clearview Coal Company, .....	25,983	30	1	1	1	1	1	1	1	1	26	10.30	61.58	45	1	61.58	61.58
Number 6 Coal Company, .....	16,240	24	1	1	1	1	1	1	1	1	15	32.33	30.30	33	1	30.30	30.30
Number 6 Coal Company, .....	10,592	30	1	1	1	1	1	1	1	1	9	41.79	94.41	46	1	94.41	94.41
Clinton Falls Coal Company, .....	10,075	21	1	1	1	1	1	1	1	1	25	47.62	99.26	46	1	99.26	99.26

Note:—This table has been printed for several years with the hope that it would create among the operators and employees a greater desire to reduce fatalities. It is not printed for the purpose of showing the bad records of any of the companies. The Department appreciates the fact that one accident in the mine of a small company may make the record exceedingly bad for the year, but when bad records are made year after year the companies should have the fact of their delinquency impressed upon them. The companies that have as low as 2 per cent., or under, per 1,000 employees, equal the record of Great Britain and are to be commended. The companies that show only 3 lives lost per 1,000 employees are also to be commended; but the large companies that have an average of 100,000 tons annually and have an average number of fatalities exceeding 3.5 per 1,000 employees are open to criticism for neglect of duty on the part of the officials of the mine. The companies that have an average of 3.5 per 1,000 employees are open to criticism for neglect of duty on the part of the officials of the mine. The companies that have an average of 3.5 per 1,000 employees are open to criticism for neglect of duty on the part of the officials of the mine. The companies that have an average of 3.5 per 1,000 employees are open to criticism for neglect of duty on the part of the officials of the mine.

Note:—The average loss of life per 1,000 employees is 3.32, largely in excess of what it should be. This being the case, the companies that show an average less than 3.00 fatalities per 1,000 employees are deserving of commendation. Four of the companies that produced 1,000,000 tons have a percentage of 2.53 or lower, while 23 of the smaller producing companies show a record ranging from .64 to 2.98, a very creditable record. In some cases one serious accident makes it impossible for the company to show a favorable record. No company, however, can be commended that has a record beyond 3.32 lives lost per 1,000 employees. The companies that show from 3.50 to 9 lives lost per 1,000 employees, without any unusual catastrophes, are open to criticism for inefficient management.

Table showing number of employes inside between 16 and 21 years, and number of employes outside between 14 and 21 years, 1915

Districts	Inside Employes			Outside Employes			Grand total
	Between 16 and 21 years	Over 21 years	Total	Between 14 and 21 years	Over 21 years	Total	
First, .....	165	6,832	6,997	354	1,767	2,121	9,118
Second, .....	225	7,197	7,422	347	1,398	1,745	9,167
Third, .....	448	5,543	5,991	462	1,216	1,678	7,669
Fourth, .....	298	6,713	7,011	405	1,258	1,663	8,674
Fifth, .....	256	4,864	5,120	451	1,070	1,521	6,641
Sixth, .....	426	9,496	9,922	569	2,031	2,600	12,522
Seventh, .....	677	8,415	9,092	413	1,958	2,371	11,463
Eighth, .....	504	6,245	6,749	406	1,567	1,973	8,722
Ninth, .....	512	7,456	7,968	418	1,753	2,171	10,139
Tenth, .....	663	7,783	8,446	655	1,913	2,568	11,014
Eleventh, .....	520	7,075	7,595	758	3,190	3,948	11,543
Twelfth, .....	401	4,358	4,759	660	1,344	2,004	6,763
Thirteenth, .....	328	4,127	4,455	635	1,873	2,508	6,963
Fourteenth, .....	287	4,116	4,403	621	1,821	2,448	6,851
Fifteenth, .....	315	4,589	4,904	592	1,521	1,820	6,724
Sixteenth, .....	433	4,904	5,337	616	1,500	2,115	7,462
Seventeenth, .....	107	6,299	6,406	180	2,764	2,946	9,352
Eighteenth, .....	290	4,123	4,413	533	1,406	1,939	6,352
Nineteenth, .....	293	4,696	4,989	549	1,853	2,402	7,391
Twentieth, .....	409	3,886	4,295	417	1,124	1,541	5,836
Twenty-first, .....	288	4,734	5,022	382	1,569	1,951	6,973
Totals, .....	7,845	123,451	131,296	10,421	35,620	46,041	177,337

Note.—Of the 7,845 minors between the ages of 16 and 21 years employed inside the mines, 39 or 4.97 per 1,000 were killed, an average loss of life much greater than the general average per 1,000 inside employes, which was only 4.01. There is no excuse for this great loss of life, the result undoubtedly of lack of discipline on the part of those in charge of the mines and of indiscretion and carelessness on the part of the victims.

Of the 10,423 minors between the ages of 14 and 21 years employed outside the mines, 12 or 1.15 per 1,000 were killed. Although this is a low average, it is entirely too high for surface fatalities and the cause is the same as stated for the inside employes.

Nationality of Inside Employees, by Districts, 1915

Nationalities Inside	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Eighth	Ninth	Tenth	Eleventh	Twelfth	Thirteenth	Fourteenth	Fifteenth	Sixteenth	Seventeenth	Eighteenth	Nineteenth	Twentieth	Twenty-first	Totals inside
American, .....	1,899	1,735	734	921	1,005	1,794	1,616	1,012	1,640	2,281	1,924	1,465	1,142	1,917	1,877	2,400	2,042	790	1,485	3,503	673	33,895
English, .....	337	571	254	265	258	1,338	1,210	1,416	1,852	2,272	1,86	1,465	1,142	1,917	1,877	2,400	2,042	790	1,485	3,503	673	33,895
Welsh, .....	548	571	254	265	258	1,338	1,210	1,416	1,852	2,272	1,86	1,465	1,142	1,917	1,877	2,400	2,042	790	1,485	3,503	673	33,895
Scottish, .....	145	232	37	280	332	110	118	27	10	352	70	55	38	48	41	41	101	16	99	24	12	8,622
Irish, .....	302	437	316	346	191	401	277	223	330	96	316	54	42	176	69	40	74	41	163	15	120	4,015
German, .....	65	118	131	65	54	127	108	110	135	252	139	41	29	101	83	103	61	19	41	37	50	1,539
Slavonian, .....	258	165	699	174	168	560	317	605	665	498	1,219	193	114	70	30	99	115	139	560	118	390	8,983
Italian, .....	973	132	659	409	823	2,299	255	1,008	79	539	887	114	70	189	264	315	223	193	237	129	96	10,493
Polish, .....	1,293	1,444	1,291	1,185	1,281	1,917	1,878	1,458	2,282	4,556	1,382	932	1,031	336	827	917	673	521	375	192	785	26,324
Hungarian, .....	130	181	262	166	38	239	41	58	25	100	342	76	112	31	242	31	373	34	239	193	87	7,468
Austrian, .....	421	246	222	37	262	479	550	261	403	669	276	70	239	325	366	590	312	270	322	193	711	7,397
Svedish, .....	4	5	.....	1	23	33	30	1	.....	2	358	251	187	534	666	575	306	269	439	70	4	10,225
Russian, .....	956	666	488	445	561	689	1,057	349	483	866	358	.....	187	534	666	575	306	269	439	70	4	10,225
Belgian, .....	.....	1	2	.....	1	.....	.....	40	483	866	358	.....	187	534	666	575	306	269	439	70	4	10,225
Bohemian, .....	.....	1	2	.....	1	.....	.....	40	483	866	358	.....	187	534	666	575	306	269	439	70	4	10,225
French, .....	.....	4	.....	3	.....	2	.....	.....	2	.....	3	.....	4	.....	.....	17	3	.....	12	1	.....	31
Canadian, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30
Yukonian, .....	108	1,047	1	212	158	1,307	1,307	13	1,104	765	398	1,347	1,045	557	331	109	314	539	700	66	225	12,320
Lithuanian, .....	3	9	5	1	14	9	5	.....	4	6	84	58	105	32	4	6	143	220	33	.....	47	388
Greek, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	192	2	2	3	111	6	88	218	62	.....	.....	692
Tyrolcan, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	74
Danish, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	74
Croatian, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	50
Syrian, .....	.....	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	18
Montenegrin, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	329
Horvat, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Magyar, .....	.....	30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	68
Totals inside, .....	7,065	6,797	5,991	4,111	5,121	9,922	8,166	6,752	8,063	11,391	7,725	4,740	4,134	4,322	4,961	5,329	6,387	3,532	4,971	4,240	4,594	128,352

## Nationality of Outside Employees, by Districts, 1915

Nationalities Outside	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Eighth	Ninth	Tenth	Eleventh	Twelfth	Thirteenth	Fourteenth	Fifteenth	Sixteenth	Seventeenth	Eighteenth	Nineteenth	Twentieth	Twenty-first	Totals outside
American, .....	1,179	967	489	476	552	1,136	999	896	1,185	1,973	1,811	1,285	1,300	1,627	1,145	1,597	1,402	766	1,452	1,316	836	24,389
English, .....	32	49	60	17	65	73	35	45	96	116	36	30	52	24	12	33	21	7	13	11	73	897
Welsh, .....	11	20	30	23	43	33	42	60	148	42	22	15	29	17	13	13	18	5	12	6	68	670
Scottish, .....	10	12	18	4	35	27	10	8	13	3	7	29	20	1	1	4	1	2	6	1	5	215
Irish, .....	49	77	199	110	96	82	110	77	74	32	98	28	19	131	33	10	31	19	47	5	69	1,396
German, .....	23	27	47	22	16	36	46	22	61	162	138	128	96	31	28	25	22	131	30	12	49	992
Slavonian, .....	56	60	133	5	20	137	90	214	131	110	153	43	54	38	56	30	78	131	214	66	278	3,091
Italian, .....	292	40	349	72	100	484	11	133	46	222	268	152	151	253	57	30	274	160	78	15	278	3,783
Polish, .....	14	18	160	52	100	172	12	116	148	57	203	152	151	52	97	142	73	60	101	40	362	3,403
French, .....	35	18	63	30	35	70	38	17	33	76	173	76	45	4	143	33	76	35	159	45	30	1,403
Austrian, .....	137	141	40	42	156	68	209	132	228	334	172	.....	162	47	99	148	69	139	223	14	101	2,668
Swedish, .....	1	.....	.....	.....	23	1	1	16	1	.....	1	.....	.....	.....	.....	.....	7	.....	1	.....	4	568
Russian, .....	174	49	61	51	130	161	189	131	65	164	124	36	35	35	85	50	133	18	70	69	207	1,935
Belgian, .....	.....	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	11	.....	.....	.....	.....	6	6
Poleman, .....	.....	5	1	.....	.....	.....	.....	.....	.....	.....	1	5	2	1	2	1	.....	.....	.....	2	.....	21
French, .....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16
Canadian, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
Lithuanian, .....	2	5	34	2	15	44	21	73	31	71	24	78	79	32	21	15	33	11	33	.....	49	673
Greek, .....	.....	.....	5	29	.....	1	5	.....	2	6	19	60	89	31	4	.....	40	37	3	.....	4	530
Tyrolean, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	9	.....	.....	5	1	3	1	12	.....	.....	62
Danish, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	.....	13
Slovakian, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	32
Syrian, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	31
Norwegian, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Horvath, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	29
Magyar, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11
Totals outside, .....	2,145	1,000	1,670	909	1,497	2,571	1,956	1,971	2,242	3,836	3,876	1,993	2,220	2,344	1,964	2,124	2,994	1,340	2,406	1,561	2,337	45,555
Grand totals inside and outside, .....	9,197	8,397	7,651	15,020	6,618	12,493	10,122	8,723	10,205	15,227	11,601	6,733	6,354	6,666	6,925	7,444	9,321	4,952	7,376	5,801	6,991	173,937

Note.—In the tables of nationalities of employees, the number of English speaking employees who are classed as American, English, Welsh, Scotch, Irish and German, was 75,336, while all other nationalities aggregated 38,571.



TABLE 1.—Number of minor children killed inside and outside the mines, 1915

Districts	Inside					Outside					Grand totals inside and outside
	Boys 20 years	Boys 19 years	Boys 18 years	Boys 17 years	Totals	Boys 20 years	Boys 19 years	Boys 18 years	Boys 17 years	Totals	
First, .....	2	3	2	...	7	...	1	...	...	2	10
Second, .....	...	...	...	...	...	...	...	...	...	...	1
Third, .....	1	...	...	...	1	...	...	...	...	...	1
Fourth, .....	1	1	...	...	2	...	...	...	...	...	2
Fifth, .....	1	...	...	...	1	...	...	...	...	...	1
Sixth, .....	...	1	...	1	2	...	...	...	...	...	2
Seventh, .....	1	2	6	...	9	...	...	...	...	...	9
Eighth, .....	1	1	...	...	2	...	...	...	...	...	2
Ninth, .....	...	1	...	...	1	...	...	...	...	...	1
Tenth, .....	...	...	...	...	...	1	...	...	...	1	1
Eleventh, .....	1	1	1	...	3	...	1	...	...	1	4
Twelfth, .....	...	...	...	...	...	...	...	...	...	...	...
Thirteenth, .....	1	1	...	...	2	...	...	...	...	...	2
Fourteenth, .....	...	...	...	...	...	...	1	...	...	1	1
Fifteenth, .....	...	...	...	...	...	...	1	...	...	1	1
Sixteenth, .....	...	...	...	...	...	...	...	...	1	1	1
Seventeenth, .....	...	...	...	...	...	...	...	...	...	...	6
Eighteenth, .....	...	...	...	...	...	...	1	...	...	1	1
Nineteenth, .....	...	...	...	...	...	...	...	...	...	...	1
Twentieth, .....	1	...	...	...	1	...	...	...	...	...	1
Twenty-first, .....	1	...	1	...	2	...	...	...	...	...	2
Totals, .....	7	14	17	2	39	3	1	4	1	11	51

TABLE 2.—Fatal accidents inside the mines, production, employees, fatalities per 1,000 employed, production per fatality, fatalities per 1,000,000 tons produced, by counties, 1915

Counties	Fatal Accidents Inside					Production in tons of 2,000 pounds	Employees inside	Lives lost inside per 1,000 employees	Tons of coal produced per life lost inside	Lives lost inside per 1,000,000 tons produced
	By falls	By cars	By explosions of gas	By miscellaneous causes	Totals					
Luzerne, .....	103	34	17	61	215	35,266,086	50,950	4.22	164,023	6.10
Lackawanna, .....	82	22	3	82	189	21,697,563	34,488	4.03	156,098	6.41
Schuylkill, .....	50	17	9	83	109	19,078,139	26,111	4.17	175,029	5.71
Northumberland, .....	22	3	6	10	38	6,354,484	10,768	3.53	167,233	5.98
Totals and averages, .....	258	76	31	136	501	82,396,272	122,317	4.10	161,464	6.08
Carbon, .....	3	1	...	7	11	3,237,156	4,022	2.73	503,378	3.40
Columbia, .....	...	1	2	1	4	1,362,465	1,324	2.60	300,516	3.33
Dauphin, .....	...	...	...	...	3	972,110	1,716	1.75	224,037	3.79
Susquehanna, .....	...	...	...	...	4	760,076	1,110	3.60	190,019	3.26
Sullivan, .....	3	...	...	...	3	604,852	716	4.19	201,451	4.96
Wayne, .....	1	...	...	...	1	103,274	71	14.08	105,274	9.50
Totals and averages, .....	10	5	2	9	26	6,981,434	8,979	2.90	268,517	3.72
Grand totals and averages, .....	268	81	33	145	527	89,377,706	131,296	4.01	169,987	5.90

TABLE 3.—Nationality by birth of employees killed by falls, 1915

Nationality	Districts																						Percentages
	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Eighth	Ninth	Tenth	Eleventh	Twelfth	Thirteenth	Fourteenth	Fifteenth	Sixteenth	Seventeenth	Eighteenth	Nineteenth	Twentieth	Twenty-first	Totals	
American, .....	2	1	1	2	...	1	...	...	2	1	4	1	1	1	2	4	1	1	2	7	...	33	
English, .....	1	...	...	1	1	...	...	...	1	2	...	...	...	...	...	...	...	1	...	...	...	4	
Welsh, .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	
Scottish, .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	
Irish, .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	
German, .....	3	8	2	3	...	3	15	7	1	8	...	1	...	...	...	...	...	...	...	...	...	8	
Polish, .....	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	
Italian, .....	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	
Slovenian, .....	2	1	2	1	...	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	
Lithuanian, .....	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Austrian, .....	2	5	...	3	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Russian, .....	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Greek, .....	1	1	1	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Mexican, .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Hungarian, .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Totals, .....	27	16	12	17	12	24	18	13	21	11	12	6	14	1	10	13	5	9	13	7	12	268	
																						100.00	

Note.—The table of nationalities of inside employees, printed in this report, shows that the so-called English speaking employees, including Americans, English, Welsh, Scotch, Irish and Germans, number 46,767 or 36.44 per cent. of the total number of inside employees, while the other nationalities number 81,555 or 63.56 per cent.

Table 3 shows that 268 lives were lost inside through falls, 69 or 22.4 per cent. of these accidents were among the English speaking employees and 203 or 77.6 per cent. were among the other employees. A statement that a higher percentage of fatalities occurred among the non-English speaking employees is made merely to give the facts, as it is possible that a larger percentage of the non-English speaking employees were working at the face, mining coal, while the English speaking employees were doing other kinds of inside work.

TABLE 4.—Nationality by birth of employees killed by falls, 1915

Districts	Non-English Speaking Employees						Totals	English Speaking Employees*						Totals	Grand totals
	By falls at or near face	By falls while taking out pillars	By falls on gangway while timbering and repairing	By falls on gangway while timbering and repairing	By falls on slope while timbering and repairing	By falls in cross headings		By falls at or near face	By falls while taking out pillars	By falls on gangway while timbering and repairing	By falls on gangway while riding on cars	By falls on slope while timbering and repairing	By falls on slope while timbering and repairing		
First, .....	10	7	1	.....	.....	.....	18	3	.....	.....	.....	.....	.....	3	21
Second, .....	13	.....	1	.....	.....	1	15	1	.....	.....	.....	.....	.....	1	16
Third, .....	12	.....	.....	.....	.....	.....	7	1	.....	.....	.....	.....	.....	5	12
Fourth, .....	12	1	.....	.....	.....	.....	13	3	1	.....	.....	.....	.....	4	17
Fifth, .....	3	5	1	.....	.....	.....	9	1	1	1	.....	.....	.....	3	12
Sixth, .....	17	1	.....	.....	.....	.....	18	6	.....	.....	.....	.....	.....	6	24
Seventh, .....	15	2	.....	.....	.....	.....	17	.....	1	.....	.....	.....	.....	1	18
Eighth, .....	11	1	.....	1	.....	.....	13	.....	.....	.....	.....	.....	.....	1	13
Ninth, .....	14	.....	.....	.....	1	.....	15	4	.....	1	.....	1	.....	6	21
Tenth, .....	6	1	1	.....	.....	.....	8	1	.....	1	.....	.....	.....	3	11
Eleventh, .....	3	6	.....	.....	.....	.....	9	4	.....	.....	.....	.....	.....	4	13
Twelfth, .....	3	.....	1	.....	.....	.....	4	1	1	.....	.....	.....	.....	2	6
Thirteenth, .....	10	3	.....	.....	.....	.....	13	1	.....	.....	.....	.....	.....	1	14
Fourteenth, .....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	1
Fifteenth, .....	5	2	.....	.....	.....	1	8	2	.....	.....	.....	.....	.....	2	10
Sixteenth, .....	4	2	1	.....	.....	1	8	.....	3	.....	.....	.....	.....	5	13
Seventeenth, .....	3	.....	1	.....	.....	.....	4	1	.....	.....	.....	.....	.....	1	5
Eighteenth, .....	3	2	1	.....	1	.....	7	2	.....	.....	.....	.....	.....	2	9
Nineteenth, .....	7	3	1	.....	.....	.....	11	.....	2	.....	.....	.....	.....	2	13
Twentieth, .....	.....	.....	.....	.....	.....	.....	.....	3	4	.....	.....	.....	.....	7	7
Twenty-first, .....	10	1	.....	.....	.....	.....	11	1	.....	.....	.....	.....	.....	1	12
Totals, .....	151	42	9	1	2	2	207	38	18	4	.....	2	60	268	

\*English speaking employees including Americans, English, Scotch, Irish, Welsh and Germans.

TABLE 5.—Fatal accidents, production, employees, fatalities inside per 1,000,000 tons produced, by counties and districts, 1915

Counties and Districts	Employees inside	Production	Falls	Cars	Gas	Explosives	Blasts	Electricity	Falling into shafts, slopes, etc.	Machinery	Miscellaneous causes	Total fatal accidents inside	Fatalities inside per 1,000 employees	Fatalities inside per 1,000,000 tons produced	Employees outside	Fatal accidents outside	Total fatal accidents	Total employees	Fatalities inside and outside per 1,000 employees
Luzerne, Lackawanna, Susquehanna, Wayne and Sullivan:—																			
First, .....	6,997	4,729,612	21	5	...	...	4	...	...	...	...	32	4.57	6.77	2,421	6	38	9,118	4.17
Second, .....	7,422	4,457,375	16	5	1	1	6	...	1	...	...	29	3.91	6.51	1,745	4	33	9,167	3.60
Third, .....	5,991	3,851,912	12	7	2	...	2	...	1	...	...	29	4.14	4.91	6,117	...	2	7,669	3.39
Fourth, .....	7,011	4,053,925	17	...	...	...	...	...	...	...	...	15	4.14	4.13	1,693	...	2	8,674	3.64
Fifth, .....	5,120	3,495,856	12	...	...	...	...	...	...	1	...	15	4.54	4.54	1,603	...	2	6,781	3.56
Sixth, .....	3,964,413	3,964,413	24	8	15	1	13	...	...	...	...	69	6.60	9.58	2,601	5	65	12,532	3.83
Seventh, .....	9,322	4,204,063	13	...	...	...	...	...	...	...	...	29	3.26	5.23	1,973	2	24	11,483	5.67
Eighth, .....	6,749	5,642,725	13	5	...	...	...	...	...	...	...	39	4.89	6.91	2,171	2	41	8,732	2.75
Ninth, .....	7,968	5,642,725	11	6	...	...	...	...	...	...	...	24	2.84	4.27	2,568	3	26	10,139	4.04
Tenth, .....	8,446	5,619,556	11	6	...	...	...	...	...	...	...	22	2.90	3.20	3,948	6	28	11,014	2.36
Eleventh, .....	7,555	6,867,759	13	3	...	...	...	...	...	...	...	21	4.13	6.34	1,951	1	22	11,543	2.43
Twelfth, .....	5,022	3,367,422	12	6	...	...	1	...	...	...	...	21	4.13	6.34	1,951	1	22	6,973	3.16
Totals and averages, .....	87,335	58,498,959	190	59	20	6	58	1	7	1	20	362	4.14	6.19	26,310	33	395	113,645	3.48
Carbon, Schuylkill, Columbia, Northumberland and Dauphin:—																			
Twelfth, .....	4,759	3,635,577	6	1	...	...	...	...	...	...	...	11	2.31	3.62	2,004	...	11	6,763	1.63
Thirteenth, .....	4,455	3,613,320	14	1	1	1	...	...	1	...	3	28	6.30	7.73	2,508	...	20	6,963	4.31
Fourteenth, .....	4,904	3,738,465	1	1	2	...	1	...	...	...	5	15	3.57	5.50	1,820	6	16	6,851	2.34
Fifteenth, .....	5,337	3,205,924	10	2	...	...	...	...	...	...	...	15	3.06	5.50	1,820	...	17	6,734	2.53
Sixteenth, .....	6,406	5,272,872	13	1	...	1	4	...	...	...	...	21	3.93	6.55	2,125	7	23	7,482	2.85
Seventeenth, .....	4,413	3,559,693	9	1	1	...	...	3	...	...	...	21	3.28	3.98	1,946	1	28	9,352	2.99
Eighteenth, .....	4,989	3,879,706	13	5	...	...	2	...	...	...	6	21	4.76	5.93	1,939	4	25	6,352	3.94
Nineteenth, .....	4,285	2,302,272	7	3	...	...	...	...	...	...	...	13	25	5.01	6.44	5	30	7,391	4.06
Twentieth, .....	43,961	30,878,747	78	22	13	2	11	3	5	...	3	13	3.03	5.65	1,541	1	14	5,836	2.40
Totals and averages, .....	131,296	89,377,706	268	81	33	8	69	4	12	1	51	527	3.75	5.34	19,733	28	183	63,694	3.03
Grand totals and averages, .....													4.01	5.90	46,043	61	588	177,339	3.32

TABLE 6.—Fatal accidents, production, employees, fatalities per 1,000 employees, fatalities per 1,000,000 tons produced, by years, 1899-1915, inclusive

Years	Employees inside	Production net tons	Falls	Cars	Gas	Explosives	Blasts	Electricity	Falling into shafts and slopes, etc.	Machinery	Miscellaneous causes	Total fatal accidents inside	Fatalities inside per 1,000 employees	Fatalities inside per 1,000,000 tons produced	Employees outside	Fatal accidents outside	Total fatal accidents	Total employees	Fatalities inside and outside per 1,000 employees
1899.	92,167	60,518,331	226	51	28	11	27	.....	16	...	30	389	1.22	6.42	48,437	72	461	140,694	2.98
1900.	94,140	57,363,286	175	60	33	14	29	.....	19	...	23	353	3.80	6.24	49,654	73	513	141,854	2.95
1901.	98,454	47,004,665	126	69	33	15	36	.....	13	...	28	341	3.81	5.81	49,772	72	503	147,651	2.97
1902.	100,571	41,343,585	116	72	29	16	34	.....	13	...	23	345	2.49	5.91	49,772	52	503	148,139	2.93
1903.	102,055	71,229,585	210	70	26	17	33	.....	31	...	32	426	1.17	5.66	49,772	92	538	151,837	3.41
1904.	110,371	73,594,389	248	71	30	35	34	.....	43	...	35	496	1.49	6.74	50,968	99	595	161,330	3.69
1905.	116,371	78,617,020	295	82	33	16	44	.....	43	...	36	551	1.73	7.01	51,883	92	644	168,254	3.83
1906.	114,998	72,139,510	214	67	43	28	53	.....	20	...	29	456	3.97	6.32	51,177	101	557	166,175	3.35
1907.	117,849	86,056,412	279	83	44	17	70	.....	3	...	73	601	5.10	6.98	50,925	107	708	168,774	4.20
1908.	124,233	83,543,243	284	90	57	23	69	.....	22	...	49	596	1.79	7.13	50,270	82	678	174,503	3.88
1909.	123,272	80,223,533	254	71	28	22	47	.....	6	...	18	490	3.98	6.11	47,923	77	567	171,195	3.31
1910.	121,542	83,683,994	253	92	20	22	60	.....	3	...	38	509	1.19	6.08	46,653	92	601	168,175	3.57
1911.	126,037	90,917,176	253	92	34	21	67	.....	2	...	4	615	1.88	6.76	47,231	84	699	173,338	4.03
1912.	127,807	84,426,869	246	78	35	25	51	.....	5	...	40	498	3.90	5.90	47,231	103	601	175,098	3.43
1913.	128,667	91,026,964	261	86	48	11	62	.....	1	...	2	557	1.33	6.08	46,643	67	624	175,641	3.46
1914.	131,589	91,139,611	231	76	43	13	66	.....	3	...	1	527	3.98	5.90	46,849	66	593	175,890	3.32
1915.	131,296	89,377,106	268	81	33	18	69	.....	4	...	1	527	4.01	5.90	46,043	61	588	177,339	3.39
Totals and averages, ..	1,951,680	1,306,975,649	4,029	1,266	593	317	845	31	404	16	788	8,289	1.23	7.39	830,755	1,371	9,665	2,792,435	3.46



TABLE 7.—Mines in operation, production, inside employees, fatal accidents inside, production per fatality inside, fatalities inside per 1,000 tons produced, by districts, 1915

Districts	Mines in operation	Production in tons of 2,000 pounds	Inside employees	Outside employees	Total number of employees	Fatalities inside	Fatalities outside	Fatalities inside per 1,000 employees	Production per fatality inside	Fatalities inside per 1,000,000 tons produced	Fatalities inside and outside per 1,000 employees
First,	28	4,729,612	6,997	2,121	9,118	32	6	4.57	147,800	6.77	4.17
Second,	26	4,457,375	7,422	1,745	9,167	29	4	3.91	153,703	6.51	3.60
Third,	25	3,891,912	5,991	1,678	7,669	24	2	4.01	162,163	6.17	3.39
Fourth,	37	4,953,925	7,011	1,663	8,674	29	2	4.13	139,963	7.14	3.34
Fifth,	30	3,495,856	5,130	1,521	6,651	15	.....	2.93	233,124	4.29	2.26
Sixth,	47	5,964,411	9,922	2,690	12,612	45	.....	4.54	132,542	7.54	3.83
Seventh,	44	6,198,043	9,092	2,371	11,463	60	3	6.60	103,301	9.68	5.67
Eighth,	47	6,204,562	9,749	1,973	11,722	32	2	3.26	191,094	5.23	2.75
Ninth,	27	5,347,795	7,888	1,973	9,861	39	.....	6.83	144,685	6.91	4.04
Tenth,	47	5,619,856	8,466	2,558	11,024	39	2	6.83	139,171	6.91	4.04
Eleventh,	81	6,867,759	7,595	3,948	11,543	22	6	2.90	373,171	3.57	2.43
Twelfth,	21	3,065,577	4,759	2,004	6,763	11	.....	2.31	275,962	3.69	1.63
Thirteenth,	30	3,613,920	4,455	2,508	6,963	28	2	6.29	129,089	7.75	4.31
Fourteenth,	39	3,900,316	4,403	2,443	6,851	10	6	2.27	330,032	3.03	2.33
Fifteenth,	28	2,728,467	4,904	1,820	6,724	15	2	3.06	181,898	5.49	2.53
Sixteenth,	44	3,205,924	5,337	2,125	7,462	21	1	3.93	152,663	6.55	2.95
Seventeenth,	44	5,272,872	6,406	2,946	9,352	21	7	4.76	251,089	3.98	2.99
Eighteenth,	46	3,539,693	4,413	1,939	6,352	21	4	4.76	168,557	5.93	3.94
Nineteenth,	45	3,879,706	4,989	2,402	7,391	25	5	5.01	155,188	6.44	4.06
Twentieth,	23	2,302,272	4,285	1,541	5,826	13	1	3.03	177,098	5.64	2.40
Twenty-first,	37	3,361,422	5,022	1,951	6,973	21	1	4.18	160,353	6.24	3.16
Totals and averages, .....	795	89,377,706	131,296	46,043	177,339	527	67	4.07	169,597	5.90	3.32

TABLE 8.—Fatal accidents inside the mines and production per accident, by counties, 1899-1915, inclusive

Years	Counties	Number of mines	Number of inside employees	Production in tons of 2,000 pounds	Fatal accidents by falls	Fatal accidents by explosions of gas	Total fatal accidents inside	Production in tons per fatal accident inside	Lives lost per 1,000 employees
1899	Luzerne, .....	156	33,078	22,287,712	98	16	144	154,776	4.35
1900		152	34,476	21,481,122	57	17	155	159,119	3.91
1901		148	36,019	23,963,869	95	22	182	131,670	5.05
1902		229	35,491	14,577,949	36	7	93	156,752	2.62
1903		233	38,370	27,878,362	75	15	169	164,961	4.40
1904		256	41,603	27,705,288	106	8	200	138,526	4.81
1905		254	43,109	29,992,636	122	14	215	139,501	4.99
1906		271	41,643	26,612,192	84	27	194	137,176	4.66
1907		243	42,022	30,853,087	105	19	223	138,355	5.31
1908		243	46,302	31,728,997	116	34	258	122,981	5.57
1909		241	45,131	30,993,306	112	16	202	153,427	4.48
1910		350	44,383	32,106,979	96	12	215	149,335	4.84
1911		281	46,863	35,061,582	92	18	205	171,032	4.37
1912		311	47,133	32,643,232	83	24	202	161,600	4.29
1913		298	47,943	36,826,287	107	10	211	172,162	4.40
1914		293	51,791	36,978,767	111	18	217	170,386	4.19
1915		308	50,950	35,266,086	103	17	215	164,028	4.21
	Totals and averages, ...	.....	726,297	496,451,453	1,598	294	3,280	151,357	4.52
1899	Lackawanna, .....	76	22,314	14,838,821	71	2	105	137,397	4.84
1900		83	23,907	13,755,961	55	8	89	154,561	3.72
1901		80	26,207	17,258,125	63	4	109	158,331	4.16
1902		118	25,981	11,851,169	23	.....	42	275,609	1.66
1903		114	27,755	20,046,133	59	3	107	187,347	3.86
1904		115	30,500	19,007,628	62	7	115	165,284	3.77
1905		126	30,853	19,709,164	82	2	127	155,190	4.12
1906		137	31,196	18,840,561	70	4	112	168,219	3.59
1907		155	32,444	22,433,409	87	16	174	128,928	5.36
1908		162	32,296	21,631,995	80	3	141	153,418	4.37
1909		157	33,764	20,489,212	73	1	129	158,831	3.82
1910		157	33,285	21,182,921	87	3	139	152,395	4.18
1911		151	34,069	22,598,414	78	3	218	103,662	6.40
1912		153	34,074	20,617,308	79	4	127	162,341	3.73
1913		156	34,285	21,836,671	83	4	140	155,976	4.08
1914		167	34,445	21,649,783	62	.....	130	166,537	3.77
1915		160	34,488	21,697,563	82	2	133	156,098	4.03
	Totals and averages, ...	.....	521,813	329,444,842	1,196	67	2,147	153,444	4.11
1899	Schuylkill, .....	83	20,474	13,694,171	43	8	90	152,157	4.40
1900		82	19,952	12,998,899	32	11	82	158,522	4.11
1901		76	20,415	15,277,658	39	6	93	164,276	4.56
1902		76	20,876	8,622,102	37	3	60	143,702	2.87
1903		76	20,144	16,359,505	44	6	88	156,244	4.37
1904		106	22,272	16,173,153	43	8	107	151,151	4.80
1905		132	25,716	17,975,160	60	11	136	132,170	5.29
1906		152	25,365	16,376,533	32	7	94	174,218	3.71
1907		140	25,181	20,160,970	48	3	123	163,910	4.88
1908		179	26,625	18,196,714	54	17	121	150,386	4.54
1909		178	25,749	16,794,537	35	7	88	190,848	3.42
1910		188	25,302	17,696,013	44	4	94	188,255	3.72
1911		185	26,015	19,234,447	53	6	118	163,004	4.54
1912		212	26,619	17,986,745	55	5	109	165,016	4.09
1913		191	26,768	19,511,483	43	29	134	115,608	5.01
1914		194	25,898	19,166,424	29	9	101	189,767	3.90
1915		215	26,111	19,078,139	50	9	109	175,029	4.17
	Totals and averages, ...	.....	409,482	285,332,724	741	149	1,747	163,327	4.27

TABLE 8.—Continued

Years	Counties	Number of mines	Number of inside employes	Production in tons of 2,000 pounds	Fatal accidents by falls	Fatal accidents by explosions of gas	Total fatal accidents inside	Production in tons per fatal accident inside	Lives lost per 1,000 employes
1899	Northumberland, .....	28	9,739	4,860,292	19	2	23	211,317	2.36
1900		27	9,741	4,690,944	15	1	33	142,150	3.39
1901		27	9,867	5,430,991	21	1	36	150,861	3.65
1902		28	9,670	3,162,066	10	10	34	93,002	3.52
1903		26	9,312	5,518,580	21	2	35	157,674	3.76
1904		52	9,248	5,516,647	15	6	39	141,452	4.22
1905		54	9,823	5,483,181	21	5	42	130,552	4.23
1906		70	9,585	5,367,497	17	3	32	167,734	3.34
1907		60	10,653	6,665,392	23	5	45	148,120	4.22
1908		69	10,639	6,067,741	23	3	49	123,831	4.61
1909		67	10,361	5,987,935	25	3	46	130,170	4.44
1910		73	10,665	6,324,317	17	.....	32	197,635	3.00
1911		75	10,772	7,109,372	16	5	39	182,292	3.62
1912		75	11,002	6,851,491	22	1	36	196,319	3.27
1913		70	10,836	7,012,687	20	2	15	155,337	4.15
1914		75	11,083	6,710,131	19	7	55	122,002	4.96
1915		76	10,768	6,354,484	23	2	33	167,223	3.53
Totals and averages, ..		.....	173,764	99,113,648	327	58	659	150,400	3.79
1899	Carbon, .....	11	2,025	1,826,267	2	.....	10	182,627	4.94
1900		11	2,052	1,863,637	1	.....	3	621,212	1.46
1901		10	2,265	1,858,519	3	.....	10	185,852	4.42
1902		10	2,242	1,104,462	1	.....	4	276,116	1.73
1903		15	2,120	2,150,021	2	.....	13	165,886	6.13
1904		20	2,381	2,253,512	2	.....	9	221,930	2.94
1905		23	2,460	2,476,406	.....	2	7	275,156	3.66
1906		23	2,740	2,240,823	2	1	6	373,470	2.19
1907		30	2,989	2,762,523	3	1	14	177,323	4.68
1908		22	3,531	2,784,946	4	.....	9	309,438	2.55
1909		28	3,492	2,652,997	3	1	16	165,812	4.58
1910		33	3,575	3,214,169	3	1	15	214,278	4.20
1911		31	3,607	3,312,483	6	1	18	184,027	4.99
1912		24	4,063	2,842,876	1	.....	8	355,484	1.96
1913		29	3,930	3,353,277	5	3	15	223,552	3.82
1914		22	5,769	3,186,691	3	7	18	177,028	3.12
1915		19	4,032	3,337,156	3	.....	11	303,378	2.73
Totals and averages, ...		.....	53,293	43,221,765	44	15	186	232,375	3.49
1899	Columbia, .....	6	1,346	1,002,469	2	.....	5	200,494	3.71
1900		7	1,163	980,721	3	.....	5	196,144	4.30
1901		5	714	1,209,859	2	.....	4	502,465	5.69
1902		6	1,428	738,070	.....	.....	3	246,023	2.09
1903		5	1,454	1,353,904	.....	.....	3	451,301	2.06
1904		10	1,419	1,151,624	7	.....	10	115,162	7.05
1905		9	1,567	1,229,897	2	.....	7	175,671	4.47
1906		7	1,403	969,065	3	1	7	128,438	4.99
1907		8	1,468	1,188,268	1	.....	4	297,067	2.72
1908		9	1,559	1,182,326	2	.....	5	236,465	3.21
1909		8	1,568	1,093,103	1	.....	2	546,551	1.28
1910		11	1,176	960,145	1	.....	1	960,145	.85
1911		7	1,472	1,193,736	1	.....	1	193,736	.68
1912		11	1,440	1,211,527	3	.....	6	202,421	4.17
1913		11	1,393	1,214,648	.....	.....	4	303,662	2.87
1914		11	1,366	1,066,471	2	.....	3	355,490	2.20
1915		8	1,324	1,202,465	.....	2	4	300,616	3.00
Totals and averages, ...		.....	23,281	18,951,098	30	3	74	256,096	3.18

TABLE 8.—Continued

Years	Counties	Number of mines	Number of inside employees	Production in tons of 2,000 pounds.	Fatal accidents by falls	Fatal accidents by explosions of gas	Total fatal accidents inside	Production in tons per fatal accident inside	Lives lost per 1,000 employees
1899	Dauphin, .....	12	1,583	817,328	1	.....	8	102,166	5.05
1900		12	1,608	779,135	.....	1	2	87,392	4.98
1901		12	1,562	830,572	3	.....	7	118,653	4.48
1902		12	1,120	423,341	.....	.....	1	423,341	.89
1903		9	1,256	732,970	3	.....	5	146,554	3.98
1904		1	1,269	723,414	.....	.....	*11	65,765	8.67
1905		10	1,350	723,126	1	1	5	144,625	3.70
1906		10	1,422	734,723	3	.....	3	244,908	2.11
1907		12	1,393	829,980	2	.....	5	165,996	3.59
1908		12	1,481	848,095	1	.....	9	94,223	6.08
1909		12	1,419	932,393	1	.....	2	466,197	1.41
1910		11	1,446	886,192	1	.....	8	110,774	5.53
1911		11	1,530	946,963	4	1	10	94,696	6.54
1912		10	1,606	945,102	.....	1	3	315,034	1.87
1913		13	1,687	1,060,270	2	.....	5	212,064	2.96
1914		10	1,697	1,000,983	2	2	6	166,831	3.54
1915	9	1,716	972,110	2	.....	3	324,037	1.75	
Totals and averages, ...		.....	25,145	14,186,612	28	7	99	143,299	3.94
1899	Susquehanna, .....	2	941	699,020	.....	.....	.....	.....	.....
1900		2	904	556,003	.....	.....	.....	.....	.....
1901		2	1,104	743,105	.....	.....	.....	.....	.....
1902		2	1,086	452,758	2	.....	2	226,379	1.84
1903		2	1,064	800,773	4	.....	6	123,462	5.64
1904		2	1,102	692,440	2	.....	6	115,407	5.44
1905		2	1,026	680,146	6	.....	6	113,358	5.85
1906		3	1,028	562,103	2	.....	6	93,634	5.84
1907		3	970	644,088	4	.....	12	53,674	12.37
1908		1	1,005	487,900	2	.....	2	243,950	1.99
1909		2	953	589,835	2	.....	3	196,612	3.15
1910		2	971	628,808	4	.....	4	157,202	4.12
1911		3	962	672,600	.....	.....	1	672,600	1.04
1912		3	1,044	582,510	3	.....	7	83,216	6.70
1913		3	1,096	594,764	1	.....	2	297,382	1.83
1914		3	1,204	658,249	3	.....	4	164,562	3.32
1915	4	1,110	760,076	1	.....	4	190,019	3.60	
Totals and averages, ...		.....	17,570	10,805,178	36	.....	65	166,234	3.70
1899	Sullivan, .....	2	322	183,182	1	.....	1	183,182	3.11
1900		2	337	235,112	3	.....	3	78,371	8.90
1901		3	281	152,505	.....	.....	.....	.....	.....
1902		3	523	409,017	3	.....	5	81,803	9.56
1903		3	455	293,442	2	.....	2	146,721	4.40
1904		3	443	294,305	1	.....	1	294,305	2.26
1905		4	331	310,496	1	.....	2	155,248	6.04
1906		4	414	358,627	1	.....	2	179,313	4.83
1907		4	459	432,101	1	.....	1	432,101	2.18
1908		4	583	550,712	2	.....	2	275,356	3.43
1909		4	661	641,216	2	.....	2	320,608	3.03
1910		4	614	632,874	.....	.....	1	632,874	1.63
1911		4	662	717,429	2	.....	4	179,357	6.04
1912		4	677	649,235	.....	.....	.....	.....	.....
1913		4	706	664,063	.....	.....	1	664,063	1.42
1914		4	744	642,730	.....	.....	.....	.....	.....
1915	4	716	601,353	3	.....	3	201,451	4.19	
Totals and averages, ...		.....	8,928	7,773,399	22	.....	30	259,113	3.36

\*Williamstown disaster.

TABLE 8.—Continued

Years	Counties	Number of mines	Number of inside employes	Production in tons of 2,000 pounds	Fatal accidents by falls	Fatal accidents by explosions of gas	Total fatal accidents inside	Production in tons per fatal accident inside	Lives lost per 1,000 employes
1899	Wayne, .....	1	353	309,069	.....	.....	.....	.....	.....
1900		1	11	21,862	.....	.....	.....	.....	.....
1901		1	589	369,462	.....	.....	.....	.....	.....
1902		.....	.....	.....	.....	.....	.....	.....	.....
1903		1	125	68,895	.....	.....	.....	.....	.....
1904		1	123	71,353	.....	.....	.....	.....	.....
1905		1	136	67,008	.....	.....	.....	.....	.....
1906		3	202	71,381	.....	.....	.....	.....	.....
1907		3	270	85,594	.....	.....	.....	.....	.....
1908		2	212	63,906	.....	.....	.....	.....	.....
1909		2	184	50,339	.....	.....	.....	.....	.....
1910		2	125	51,576	.....	.....	.....	.....	.....
1911		2	84	70,150	1	.....	1	70,150	11.91
1912		2	129	92,843	.....	.....	.....	.....	.....
1913		1	23	52,814	.....	.....	.....	.....	.....
1914	2	76	133,402	.....	.....	.....	.....	.....	
1915	3	71	105,274	1	.....	1	105,274	14.08	
Totals and averages, ...		.....	2,714	1,634,928	2	.....	2	842,464	.74



TABLE 9.—Miners and miners' laborers employed in the mines; number of fatal accidents per 1,000 employes; average number of days worked by breakers; average production per day, 1882-1915, inclusive

Years	Number of miners employed	Number of miners killed	Number of miners killed per 1,000 employes.	Number of miners' laborers employed	Number of miners' laborers killed	Number of miners' laborers killed per 1,000 employes	Average number of days worked by breakers	Average production per day worked by breakers, net tons
1882, .....	22,843	135	5.91	15,229	56	3.68	218	160,814
1883, .....	25,719	136	5.37	16,879	67	3.97	232	162,704
1884, .....	27,100	132	4.87	19,606	81	4.13	192	189,941
1885, .....	28,505	160	5.65	20,128	86	4.27	204	187,413
1886, .....	25,970	131	5.04	17,068	68	3.98	196	198,728
1887, .....	29,558	102	3.45	17,548	57	3.25	208	202,675
1888, .....	34,547	169	4.89	21,952	87	3.96	218	213,922
1889, .....	30,504	194	6.36	19,368	79	4.08	197	221,978
Totals and averages, ..	224,146	1,159	5.12	147,778	581	3.93	208	192,272
1890, .....	28,936	146	5.05	18,620	95	5.10	210	214,220
1891, .....	30,552	180	5.89	19,590	119	6.07	213	233,340
1892, .....	30,779	180	5.84	22,110	111	5.02	202	253,599
1893, .....	32,881	195	5.93	22,853	108	4.73	202	261,590
1894, .....	33,357	218	6.54	23,942	91	3.80	175	291,240
1895, .....	34,553	179	5.18	24,638	115	4.67	187	304,539
1896, .....	37,003	204	5.51	26,530	134	5.09	170	316,725
1897, .....	36,932	210	5.69	27,277	99	3.63	151	348,219
Totals and averages, ..	264,993	1,512	5.71	185,560	872	4.70	189	277,934
1898, .....	36,277	176	4.84	24,060	124	5.15	151	349,753
1899, .....	36,421	199	5.46	23,946	114	4.75	179	338,091
1900, .....	36,832	184	4.99	24,513	95	3.86	179	325,928
1901, .....	37,804	224	5.92	26,265	122	4.64	195	344,075
1902, .....	36,392	114	3.13	25,443	62	2.44	*116	325,387
1903, .....	36,823	204	5.54	27,533	110	4.00	211	356,552
1904, .....	39,848	233	5.85	31,217	145	4.64	213	345,513
1905, .....	42,078	308	7.32	31,967	148	4.63	208	378,111
Totals and averages, ..	302,575	1,642	5.43	215,044	920	4.28	181	349,301
1906, .....	41,801	226	5.41	29,652	133	4.48	206	350,192
1907, .....	43,035	309	7.18	29,984	136	4.54	229	379,103
1908, .....	44,340	313	7.05	32,853	154	4.68	211	345,940
1909, .....	44,675	264	5.91	32,232	126	3.91	205	391,336
1910, .....	43,651	254	5.82	32,040	147	4.59	212	394,736
1911, .....	45,324	306	6.75	32,905	176	5.35	234	388,535
1912, .....	44,696	262	5.86	33,438	117	3.50	220	383,758
1913, .....	44,346	286	6.45	33,973	148	4.36	242	378,624
Totals and averages, ..	351,868	2,220	6.31	257,077	1,137	4.42	220	376,528
1914, .....	45,897	296	6.45	37,030	126	3.40	229	398,208
1915, .....	46,422	281	6.05	36,379	143	3.93	221	404,424
Totals and averages, ..	92,319	577	6.2%	73,409	2 69	3.66	225	397,234

\*Strike during the year.

†Washeries worked during the strike. Time was not computed in the average days worked.

TABLE 10.—Employees inside and outside the mines; number of fatal accidents per 1,000 employees; production per fatality, 1881-1915, inclusive

Years	Inside				Outside			Number of lives lost inside and outside per 1,000 employees
	Employees	Fatal accidents	Lives lost per 1,000 employees	Production of coal in tons of 2,000 pounds for each life lost	Employees	Fatal accidents	Lives lost per 1,000 employees	
1881, .....	45,619	234	5.13	146,165	30,412	39	1.28	3.59
1882, .....	50,764	254	4.92	140,230	31,436	41	1.30	3.54
1883, .....	56,286	274	4.87	137,764	35,153	49	1.39	3.53
1884, .....	61,922	286	4.62	127,513	39,151	46	1.17	3.23
1885, .....	62,961	290	4.61	131,834	37,419	42	1.12	3.31
1886, .....	65,930	236	3.69	165,046	39,114	43	1.10	2.71
1887, .....	67,716	270	3.99	156,153	38,801	46	1.19	2.97
1888, .....	78,688	317	4.03	147,114	43,530	47	1.08	2.98
1889, .....	74,178	339	4.57	128,763	45,468	58	1.28	3.32
1890, .....	73,613	323	4.39	139,276	46,306	55	1.19	3.15
Totals and averages, ..	635,617	2,823	4.44	141,016	386,790	466	1.20	3.22
1891, .....	76,509	372	4.86	133,606	46,379	56	1.20	3.47
1892, .....	82,088	261	4.40	141,903	48,212	57	1.18	3.21
1893, .....	86,287	388	4.49	136,188	51,682	68	1.32	3.30
1894, .....	87,901	363	4.19	138,497	52,038	78	1.50	3.19
1895, .....	80,251	354	3.97	160,872	54,454	67	1.23	2.93
1896, .....	94,798	430	4.54	125,217	55,290	72	1.30	3.34
1897, .....	95,812	372	3.88	141,347	53,745	51	.95	2.83
1898, .....	91,171	360	3.95	146,674	51,249	51	.99	2.89
1899, .....	92,167	389	4.22	155,574	48,437	72	1.49	3.28
1900, .....	94,140	358	3.80	160,233	49,684	53	1.07	2.86
Totals and averages, ..	890,184	3,752	4.21	143,604	511,130	625	1.22	3.12
1901, .....	98,434	441	4.48	152,142	49,217	72	1.46	3.47
1902, .....	98,377	245	*2.49	168,739	49,762	55	1.11	2.03
1903, .....	102,055	426	4.17	176,602	49,772	92	1.85	3.41
1904, .....	110,362	496	4.49	148,376	50,968	99	1.94	3.69
1905, .....	116,371	551	4.73	142,735	51,883	93	1.79	3.83
1906, .....	114,998	456	3.97	141,253	51,177	101	1.98	3.35
1907, .....	117,849	601	5.10	143,189	50,925	107	2.10	4.20
1908, .....	124,233	596	4.79	140,173	50,270	82	1.63	3.88
1909, .....	121,272	490	3.98	161,722	47,923	77	1.61	3.31
1910, .....	121,542	509	4.19	164,499	46,633	92	1.97	3.57
Totals and averages, ..	1,127,493	4,811	4.27	154,138	498,530	870	1.75	3.49
1911, .....	126,037	615	4.88	147,823	47,301	84	1.78	4.03
1912, .....	127,807	498	3.90	169,532	47,291	103	2.18	3.43
1913, .....	128,667	557	4.33	161,501	46,643	67	1.44	3.56
1914, .....	134,073	534	3.98	170,767	46,826	66	1.41	3.32
1915, .....	131,296	527	4.01	169,597	46,043	61	1.32	3.32
Totals and averages, ..	647,880	2,731	4.22	163,873	234,104	381	1.63	3.53

\*Year of the big strike, when an average of only 116 days was worked by the collieries.

TABLE 11.—Fatal accidents inside the mines, employes, production in net tons, fatalities per 1,000 employes, production per fatality, by companies, 1911-1915, inclusive

Companies	Employes inside	Fatal accidents inside	Fatalities inside per 1,000 employes	Production	Production per fatality inside
Philadelphia and Reading Coal and Iron Co., .....	95,009	345	3.63	59,873,119	173,545
Delaware, Lackawanna and Western Railroad Co., .....	81,377	314	3.86	50,460,928	160,704
Lehigh Valley Coal Co., .....	55,822	278	4.98	43,607,658	156,862
Delaware and Hudson Co., .....	56,094	239	4.26	37,319,016	156,147
Pennsylvania Coal Co., .....	45,169	181	4.01	30,711,629	169,678
Lehigh and Wilkes-Barre Coal Co., .....	41,429	196	4.73	30,615,522	156,202
Susquehanna Coal Co., .....	41,448	158	3.81	25,724,925	162,816
Lehigh Coal and Navigation Co., .....	28,260	109	3.85	22,833,744	209,484
Totals, .....	444,608	1,820	4.09	301,146,521	165,465
Scranton Coal Co., .....	19,804	107	5.40	11,530,144	107,758
Kingston Coal Co., .....	12,252	61	4.90	9,738,091	159,641
Hillside Coal and Iron Co., .....	13,713	46	3.35	8,875,716	192,950
Hudson Coal Co., .....	13,566	48	3.54	8,386,730	174,724
Coxe Brothers and Co., Inc., .....	7,793	20	2.57	8,234,291	411,715
G. B. Marle Co., .....	8,424	25	2.97	8,045,115	321,805
Temple Coal Co., .....	5,340	19	3.56	3,659,830	192,625
West End Coal Co., .....	4,754	17	3.58	3,515,494	206,783
Pardoe Brothers and Co., Inc., .....	3,432	5	1.46	3,455,737	697,147
Price-Pancoast Coal Co., .....	5,822	92	15.80	3,324,237	36,133
A. Pardee and Co., .....	5,111	7	1.37	3,307,705	472,529
Forty-Fort Coal Co., .....	5,864	24	4.08	3,255,714	135,654
Jermyn and Co., .....	3,596	9	2.50	2,967,957	327,551
O. M. Dodson and Co., .....	2,698	15	5.56	2,183,779	145,585
Saint Clair Coal Co., .....	2,243	10	4.46	2,037,850	203,789
Lytle Coal Co., .....	2,950	13	4.41	2,031,675	156,282
Lackawanna Coal Co., Limited, .....	3,249	14	4.34	2,027,501	144,821
Totals, .....	120,611	532	4.41	86,607,656	162,796
Mount Lookout Coal Co., .....	3,110	18	5.79	1,948,243	108,236
Thomas Colliery Co., .....	1,462	11	7.52	1,850,879	168,262
Dodson Coal Co., .....	2,145	8	3.73	1,813,387	226,673
Pine Hill Coal Co., .....	2,510	14	5.58	1,811,771	129,412
Midvalley Coal Co., .....	1,855	4	2.16	1,751,226	437,806
Maryd Coal Co., .....	1,737	13	7.48	1,730,344	133,796
Alden Coal Co., .....	2,796	6	2.15	1,704,111	284,018
Haddock Mining Co., .....	2,837	11	3.86	1,661,055	151,005
Oak Hill Coal Co., .....	2,415	24	9.94	1,626,162	67,757
Harleigh-Brookwood Coal Co., .....	2,385	17	7.13	1,574,947	92,644
Estate A. S. Van Winkle, .....	2,063	5	2.42	1,547,947	309,589
Greenough Red Ash Coal Co., .....	1,959	11	5.62	1,466,637	133,321
Colonial Collieries Co., .....	1,875	5	2.67	1,454,182	290,836
Mount Jessup Coal Co., Limited, .....	2,206	6	2.72	1,436,407	239,401
Excelsior Coal Co., .....	2,361	12	5.08	1,404,772	117,064
Buck Run Coal Co., .....	1,951	7	3.59	1,345,515	192,188
Harwood Coal Co., .....	1,627	2	1.23	1,244,455	622,227
Red Ash Coal Co., .....	1,691	4	2.37	1,220,109	305,027
Moosic Mountain Coal Co., .....	1,896	8	4.22	1,216,795	152,099
Shipman Coal Co., .....	1,695	10	5.90	1,181,201	118,120
Girard Mammoth Coal Co., .....	643	2	3.11	1,065,235	532,617
Totals, .....	43,229	198	4.58	32,064,180	161,940

TABLE 11.—Continued

Companies	Employees inside	Fatal accidents inside	Fatalities inside per 1,000 employees	Production	Production per fatality inside
Northern Anthracite Coal Co., .....	975	4	4.10	994,257	248,564
East Boston Coal Co., .....	1,735	9	5.18	955,892	106,710
Peoples Coal Co., .....	1,678	9	5.36	935,480	103,942
Enterprise Coal Co., .....	1,396	4	2.87	972,114	233,028
Wilkes-Barre Anthracite Coal Co., .....	1,469	13	8.85	828,558	63,735
Rauh Coal Co., .....	1,644	9	5.47	814,766	90,529
John S. Wentz and Co., .....	757	2	2.64	735,813	367,906
Mill Creek Coal Co., .....	717	3	4.18	722,144	240,715
M. S. Kennermer and Co., .....	900	1	1.11	678,928	678,928
Archbald Coal Co., .....	1,230	14	11.38	667,833	47,702
Buck Ridge Coal Mining Co., .....	1,435	9	6.27	663,258	73,695
Trevorton Colliery Co., .....	1,042	1	.96	645,293	645,293
George F. Lee Coal Co., .....	1,233	5	4.04	589,695	117,939
Dolph Coal Co., Limited, .....	1,330	2	1.50	582,975	291,487
Darkwater Coal Co., .....	682	4	5.86	580,360	145,090
Hazle Mountain Coal Co., .....	911	3	3.29	564,114	188,038
Green Ridge Coal Co., .....	814	3	3.69	527,596	175,865
O'Boyle-Foy Anthracite Coal Co., .....	720	3	4.17	521,998	173,999
Totals, .....	20,674	98	4.74	12,941,074	132,054
Miscellaneous companies, .....	18,748	83	4.43	14,772,677	177,984
Grand totals and averages, .....	647,880	2,731	4.22	447,532,108	163,873

Note.—This table covers a period of five years, 1911 to 1915 inclusive, and shows the total production for the several companies, the total number of inside employees, the number of lives lost inside for each company, the fatalities inside per 1,000 employees and the average production per life lost inside for each company. The companies have been placed in five groups. The first group comprises eight companies that produced over 20,000,000 tons each in the five years. Their total production was 301,146,521 tons. The number of employees inside was 444,608. The number of fatalities inside was 1,820 or 4.09 per 1,000 employees. The production per life lost inside was 165,465 tons.

The second group comprises seventeen companies that produced over 2,000,000 tons each. Their total production was 86,607,656 tons. The number of employees inside was 120,611. The number of fatalities inside was 532 or 4.41 per 1,000 inside employees. The production per life lost inside was 162,796 tons.

The third group comprises twenty-one companies that produced over 1,000,000 tons each. Their total production was 32,064,180 tons. The number of employees inside was 43,233. The number of fatalities inside was 193 or 4.53 per 1,000 employees. The production per life lost inside was 161,940 tons.

The fourth group comprises eighteen companies that produced over 500,000 tons each. Their total production was 12,941,074 tons. The number of employees inside was 20,674. The number of fatalities inside was 98 or 4.74 per 1,000 employees. The production per life lost inside was 132,054 tons.

The fifth group (miscellaneous companies), comprises eighteen companies that produced less than 500,000 tons each. Their total production was 14,772,677 tons. The number of employees inside was 18,748. The number of fatalities inside was 83 or 4.43 per 1,000 employees. The production per life lost inside was 177,984 tons.

The total production of all the companies for the five years was 447,532,108 tons. The number of employees inside was 647,880. The number of fatalities inside was 2,731, an average of 4.22 per 1,000 employees. The production per life lost inside was 163,873 tons.

Several of the smaller companies have very commendable records, having produced from 400,000 tons to 697,000 tons per life lost inside. Other records, however, are open to criticism, as the production was as low as 67,000 tons per fatal accident inside.

No further comment is necessary regarding these figures as they speak for themselves. It is a fact, however, that a great effort has been made in recent years to reduce the accidents inside of the anthracite mines, and while the efforts have met with some success, the public generally does not appreciate what has been done.

In considering this table, it should be borne in mind that during the five years for which the figures are given, several catastrophes of an unusual character occurred, by which the average number of fatalities for some of the companies was materially affected.

In 1911, 72 persons were suffocated from a mine fire at the Pancoast Colliery of the Price-Pancoast Coal Company. Deducting the fatalities caused by this catastrophe from the total number charged against this company, leaves only 22 inside for the five years.

In 1912, 6 persons were killed by an explosion of dynamite at the Parrish Colliery of the Parrish Coal Company, now the Lehigh and Wilkes-Barre Coal Company.

In 1913, 20 persons were killed by an explosion of gas at the East Brookside Colliery of the Philadelphia and Reading Coal and Iron Company.

In 1914, 13 persons were killed by falling down a shaft at the Diamond Colliery of the Delaware, Lackawanna and Western Railroad Company; 7 were killed by an explosion of gas at the Lansford Colliery of the Lehigh Coal and Navigation Company and 4 were killed by falling down a shaft at the Maryland Colliery of the Maryland Coal Company.

In 1915, 13 persons were killed by an explosion of gas at the Prospect Colliery of the Lehigh Valley Coal Company.



TABLE 12.—Companies that had no fatal accidents, 1910-1915, inclusive

Names of Companies	1910	1911	1912	1913	1914	1915	Total production without fatalities
	Production in tons of 2,000 pounds	Production in tons of 2,000 pounds	Production in tons of 2,000 pounds	Production in tons of 2,000 pounds	Production in tons of 2,000 pounds	Production in tons of 2,000 pounds	
Mount Hope Coal Co., .....	95,240	96,628	71,682	50,113	134,592	149,778	598,038
H. H. Smith and Co., .....	85,928	103,074	55,416	78,070	93,187	100,862	519,537
Economy Light, Heat and Power Co., .....	44,800	42,940	46,875	32,609	114,790	113,315	396,268
Bulls Head Coal Co., .....	29,667	22,221	30,656	39,750	56,180	65,931	239,356
Carbondale Coal Mining Co., .....	28,483	26,593	31,553	35,473	31,329	37,734	191,965
South Side Coal Co., .....	.....	.....	.....	70,797	65,270	49,033	185,100
Gorman and Campion, .....	14,953	26,312	22,314	33,394	32,381	15,523	150,107
Emperor Coal Co., .....	.....	.....	.....	.....	*63,353	61,177	124,530
Butcher Creek Coal Co., .....	14,560	25,200	19,871	18,063	14,961	17,920	110,575
Beaver Valley Coal Co., .....	15,035	.....	5,077	6,748	22,635	39,327	88,822
Central Coal Co., .....	.....	.....	.....	.....	*5,165	32,359	38,554
Thomas R. Reese and Son, .....	4,013	5,821	6,225	3,984	4,658	5,323	30,034
Wachna-Taylor Anthracite Coal Co., .....	.....	.....	10,489	7,675	6,269	1,498	25,931
Shamokin Red Ash Coal Co., .....	.....	.....	.....	.....	.....	*23,659	23,659
Plymouth Red Ash Coal Co., .....	.....	.....	.....	.....	*3,427	16,628	19,455
Seranton Anthracite Coal Co., .....	.....	.....	.....	.....	.....	*14,000	14,000
Black Heath Coal Co., .....	.....	.....	.....	5,507	3,414	4,956	13,877
Elmer Neyer, .....	.....	.....	.....	.....	75,192	3,720	8,922
Spruks Coal Co., .....	.....	.....	.....	.....	.....	*4,543	4,543
Totals, .....	323,719	351,109	303,153	334,188	657,872	763,766	2,783,312

\*New operation.

†Formerly operated by Moses Neyer.

TABLE 13.—Average number of days worked by breakers, total production and average production per day, 1899-1915, inclusive

Years	Average number of days worked	Production in tons of 2,000 pounds	Average production per day excluding washery production	Production from wash- eries (net tons)
1899, .....	179	60,513,321	332,195	11,056,425
1900, .....	176	67,363,396	315,598	1,818,170
1901, .....	175	67,094,665	333,703	2,009,884
1902, .....	*116	41,340,935	†330,820	2,965,792
1903, .....	211	75,232,555	337,090	4,119,258
1904, .....	213	73,594,369	329,361	3,440,420
1905, .....	208	78,647,030	339,371	3,897,683
1906, .....	206	72,139,510	326,413	4,850,402
1907, .....	227	86,056,412	354,393	5,630,169
1908, .....	211	83,543,243	373,963	4,635,923
1909, .....	205	80,223,833	365,938	5,206,562
1910, .....	212	83,683,994	369,207	5,412,167
1911, .....	234	90,917,176	369,267	4,555,457
1912, .....	220	84,426,869	364,185	4,317,161
1913, .....	242	91,626,904	366,499	2,634,157
1914, .....	229	91,189,641	386,467	2,702,537
1915, .....	221	89,377,706	388,956	3,418,427

\*Strike during the year.

†Washeries worked during the strike.

‡The production from washeries is not included in the production per day.

Note.—During 1899 the first year covered by this Table, the average number of days worked by breakers was only 179 and the daily production outside of the coal produced by washeries was 332,195 tons. During 1904, the average number of days worked by breakers had increased to 213 and the total production had decreased to 329,361 tons, a difference of 2,874 tons. During 1909 the average number of days worked by breakers was 205 and the daily production was 365,938 tons, an increase in the daily production over 1899 of 33,743 tons. During 1915 the average number of days worked by breakers was 221 and the daily production exclusive of washery coal was 388,956 tons, an increase over 1899 of 46,761 tons. It is not expected that there will be any great increase in the daily production of anthracite, but with an average of 400,000 tons a day, 22 days a month or 264 days a year, the annual production will amount to 103,600,000 tons, but it is doubtful if the production of anthracite will exceed 110,000,000 tons.



TABLE AA.—Part 1.—Number of net tons of coal mined, number of days worked, number of persons employed, number of fatal and non-fatal accidents, quantity of explosives used, etc., 1899-1915, inclusive

Districts	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production in tons of 2,000 pounds	Average number of days worked	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
									Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
First, .....	4,262,303	414,440	52,869	4,729,612	291	9,118	38	80	3,488,500	798,546	82,493	682
Second, .....	472,460	163,797	163,797	4,431,321	262	9,118	26	59	3,488,500	483,527	82,493	698
Third, .....	3,489,931	367,931	164,637	3,481,912	216	7,689	23	59	3,707,972	179,180	780,275	698
Fourth, .....	3,735,580	146,814	186,531	4,038,935	215	8,672	29	42	4,207,885	335,736	7,203	671
Fifth, .....	3,157,973	290,109	48,774	3,496,856	224	6,641	15	41	2,788,100	97,422	95,080	456
Sixth, .....	5,392,294	507,485	64,632	5,964,411	238	12,522	48	76	5,775,350	266,760	161,450	1,100
Seventh, .....	5,227,271	631,570	339,202	6,198,043	207	11,463	65	104	3,681,196	493,244	420,183	1,315
Eighth, .....	3,613,127	482,561	108,375	4,204,063	238	8,722	24	37	2,968,295	1,043,415	137,615	1,042
Ninth, .....	4,999,013	486,724	156,988	5,642,725	213	10,139	41	40	2,929,945	128,973	330,553	1,052
Tenth, .....	5,079,452	468,030	72,374	5,619,856	229	11,014	26	28	2,804,925	345,299	634,120	646
Eleventh, .....	5,815,744	797,785	254,230	6,897,759	246	11,543	28	54	3,331,900	2,698,960	18,457	903
Twelfth, .....	2,516,075	474,650	44,852	3,035,577	212	6,763	11	12	653,425	614,171	190,377	497
Thirteenth, .....	3,066,802	486,443	60,675	3,613,920	222	6,963	16	45	470,680	851,660	356,616	496
Fourteenth, .....	2,604,434	632,941	62,941	3,300,316	201	6,851	30	69	86,223	1,212,921	100,582	462
Fifteenth, .....	2,739,095	890,797	82,398	3,630,190	220	7,453	13	59	93,470	1,044,482	57,442	632
Sixteenth, .....	2,739,095	890,797	82,398	3,630,190	220	7,453	13	59	93,470	1,044,482	57,442	632
Seventeenth, .....	4,592,755	646,088	84,028	5,273,872	225	9,352	28	17	44,525	1,429,417	495,596	355
Eighteenth, .....	3,115,697	385,776	38,220	3,559,693	231	6,352	25	52	226,065	818,430	553,435	554
Nineteenth, .....	3,259,240	571,834	48,532	3,879,706	255	7,391	30	37	342,350	1,017,138	529,233	584
Twentieth, .....	1,731,749	465,088	45,435	2,302,272	208	5,806	14	38	126,025	520,017	210,114	487
Twenty-first, .....	3,003,082	302,253	62,077	3,307,432	203	6,973	22	46	2,428,350	662,735	37,700	583
Totals, 1915, .....	77,578,441	9,815,643	1,983,622	89,377,706	221	177,339	588	995	42,763,060	15,376,447	5,577,707	14,390

TABLE AA.—Part 1.—Continued

Years	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employees	Total production in tons of 2,000 pounds	Average number of days worked	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Explosives	Number of horses and mules
									Number of pounds of dynamite used	Number of pounds of permissible explosives used
1914.	79,713,875	9,512,372	1,957,394	91,139,641	229	130,899	600	1,038	44,336,113	17,244,174
1913.	80,325,964	9,357,762	1,941,238	91,636,964	242	175,310	624	1,125	44,001,660	16,083,035
1912.	73,462,014	8,804,759	2,160,066	84,436,869	220	175,988	691	1,976	41,401,015	13,685,062
1911.	79,775,010	9,152,073	1,990,093	90,917,176	224	173,398	699	1,124	47,946,483	13,369,056
1910.	77,418,729	8,396,895	1,868,369	83,681,994	212	163,175	601	1,050	45,113,322	11,171,468
1909.	70,314,739	8,107,810	1,896,284	80,227,833	205	171,195	567	1,034	41,131,857	10,724,616
1908.	73,507,322	8,320,032	1,715,889	83,533,243	221	174,593	678	1,170	43,000,000	10,667,849
1907.	76,138,664	8,217,439	1,700,309	86,056,112	221	173,793	678	1,150	43,629,760	10,557,731
1906.	83,418,976	7,138,490	1,600,309	86,056,112	206	165,175	557	1,212	40,353,075	7,980,731
1905.	85,137,283	7,012,258	1,500,556	73,617,030	208	168,254	694	1,289	47,570,500	8,539,312
1904.	67,458,836	6,395,582	1,544,728	73,594,369	213	161,330	599	1,047	44,773,800	6,519,312
1903.	67,458,836	6,395,582	1,378,167	75,242,585	211	151,827	518	1,325	42,529,400	5,317,432
1902.	35,383,031	4,955,752	1,047,152	41,340,935	116	148,119	309	1,241	21,128,975	2,170,965
1901.	59,881,650	5,912,000	1,330,115	67,094,665	195	147,651	513	1,243	38,020,100	4,155,685
1900.	50,704,201	5,466,044	1,192,531	57,363,396	176	143,824	411	1,057	30,929,500	3,454,641
1899.	53,705,009	5,568,539	1,244,733	60,513,331	179	140,604	461	1,030	34,317,275	3,649,417

TABLE AA.—Part 2, 1915

Districts.	Boilers				Locomotives				Number of steam engines of all classes	Total horsepower	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
	Cylindrical	Horse power	Tubular	Horse power	Total horse power	Gasoline	Steam	Alr	Electric						
First.	18	486	96	19,070	19,556	.....	30	19	69	272	49	71,284	23,948	21	15
Second.	6	756	109	22,060	22,816	.....	14	35	54	173	28	45,424	23,948	16	16
Third.	17	535	79	14,253	14,793	.....	15	.....	63	173	36	29,363	15,796	15	13
Fourth.	24	253	39	7,964	9,217	1	14	.....	105	121	27	29,706	15,796	23	13
Fifth.	19	1,760	99	14,970	15,730	.....	9	.....	70	184	34	49,620	26,750	9	16
Sixth.	.....	.....	182	29,881	29,881	.....	23	11	100	430	51	57,627	31,077	15	28
Seventh.	1	125	148	32,999	33,124	.....	14	14	28	488	42	44,785	26,090	15	24
Eighth.	.....	.....	112	28,610	28,610	.....	14	6	32	347	53	57,268	32,404	22	12
Ninth.	.....	.....	132	27,500	27,500	.....	17	7	46	547	40	48,315	22,325	13	18
Tenth.	6	150	100	24,250	24,400	2	34	12	85	232	36	28,607	18,210	22	28
Eleventh.	.....	.....	253	50,290	50,620	1	17	12	31	386	99	115,024	68,668	18	27
Twelfth.	11	330	153	22,100	22,100	.....	17	17	16	335	34	63,602	20,900	3	13
Thirteenth.	.....	.....	171	23,790	23,790	.....	45	7	14	323	28	44,111	17,444	3	10
Fourteenth.	15	555	171	23,790	23,790	4	47	6	35	339	46	67,161	34,323	8	11
Fifteenth.	.....	.....	138	19,960	19,960	2	23	1	22	295	51	40,384	17,483	11	9
Sixteenth.	20	640	150	20,617	21,257	3	23	.....	43	294	39	69,406	16,422	10	29
Seventeenth.	3	186	119	27,357	27,543	.....	30	2	81	166	39	69,406	16,422	13	19
Eighteenth.	.....	.....	158	22,925	22,925	.....	47	9	11	217	49	59,331	25,394	7	23
Nineteenth.	2	400	170	30,860	31,260	2	1	1	25	397	40	60,437	19,870	14	9
Twentieth.	4	650	174	21,675	22,325	2	20	3	27	274	19	33,928	11,492	10	16
Twenty-first.	13	280	123	19,865	20,125	4	32	.....	50	257	46	28,620	17,025	22	9
Totals.	159	7,080	2,846	508,071	515,151	22	626	162	982	6,340	919	1,093,486	500,465	297	324



TABLE A.—Continued

Occupations of Employees	Districts										Grand totals inside and outside
	Twelfth	Thirteenth	Fourteenth	Fifteenth	Sixteenth	Seventeenth	Eighteenth	Nineteenth	Twentieth	Twenty-first	
<b>Inside</b>											
Mine foremen, .....	12	14	28	15	15	26	16	22	12	22	435
Assistant foremen, .....	109	79	97	43	61	29	60	67	33	25	1,098
Fire bosses and assistants, .....	.....	29	.....	.....	.....	.....	.....	.....	.....	.....	46
Miners, .....	1,481	1,461	1,373	2,197	2,283	1,977	1,800	1,930	1,439	1,970	36,379
Miners' laborers, .....	1,025	1,231	1,146	756	943	507	507	870	1,489	1,690	36,379
Drivers and runners, .....	283	231	185	320	351	260	307	316	235	444	10,618
Doorknobs and helpers, .....	67	24	76	54	49	72	68	43	23	103	2,666
Pumpmen, .....	27	37	330	77	80	24	32	53	44	67	1,214
Company men, .....	462	488	330	281	446	2,124	520	564	332	330	14,546
All other employees, .....	1,294	889	1,098	1,090	1,054	1,236	606	1,098	1,516	390	16,935
<b>Totals, .....</b>	<b>4,759</b>	<b>4,455</b>	<b>4,403</b>	<b>4,904</b>	<b>5,337</b>	<b>6,406</b>	<b>4,413</b>	<b>4,989</b>	<b>4,295</b>	<b>5,022</b>	<b>131,296</b>
<b>Outside</b>											
Superintendents, .....	1	7	5	5	4	5	8	11	2	13	118
Foremen, .....	18	23	26	18	18	23	20	26	15	17	416
Blacksmiths and carpenters, .....	78	155	184	108	107	261	131	148	96	131	3,111
Engineers and firemen, .....	274	243	339	293	289	314	262	375	307	235	6,096
Shatepickers (boys), .....	283	314	227	411	367	208	217	335	107	261	6,389
Shatepickers (men), .....	87	145	78	62	67	215	49	130	19	301	3,049
Bookkeepers and clerks, .....	42	38	51	51	52	39	52	28	28	35	889
All other employees, .....	1,221	1,463	1,551	872	1,225	1,865	1,213	1,228	967	954	25,995
<b>Totals, .....</b>	<b>2,004</b>	<b>2,508</b>	<b>2,448</b>	<b>1,820</b>	<b>2,125</b>	<b>2,946</b>	<b>1,939</b>	<b>2,402</b>	<b>1,541</b>	<b>1,951</b>	<b>46,013</b>
<b>Grand totals inside and outside, .....</b>	<b>6,763</b>	<b>6,963</b>	<b>6,851</b>	<b>6,724</b>	<b>7,462</b>	<b>9,352</b>	<b>6,352</b>	<b>7,391</b>	<b>5,836</b>	<b>6,973</b>	<b>177,339</b>

Note.—Generally speaking the employees in and about the mines are designated "miners" by persons not familiar with mine operations. The fact is, however, that only one-fourth of the total number of mine employees are miners. Of the 131,296 inside employees shown on this table and generally regarded as miners, only about 46,422, or 35 per cent, are employed at other occupations, while the balance, 84,874, or 65 per cent, are miners.

Since 1913 a large increase has been made in the force of inside foremen and fire bosses. In 1913 these officials, who really have full charge of the inside work, numbered 2,288, while in 1915, 4,011. This percentage of fatalities was a fair average for the kind of work performed inside the anthracite mines. The 1,000 employees inside were 4.33, and in 1915, 4.01. The Pennsylvania record is excellent and equal to that of Great Britain. It is expected that 1916 will show a reduced percentage of fatalities inside, one reason being an increase in the number of State mine inspectors from 21 to 25. Another reason is the great number of special inspectors named by the various insurance companies to guard their interests. With the additional State inspectors and the special inspectors of the insurance companies, there is reason to hope for a material reduction in accidents, both fatal and non-fatal.







TABLE C.—Causes of non-fatal accidents inside and outside the mines, and number attributable to each cause, 1915.

Causes of Non-Fatal Accidents	Districts																					Totals	Percentages	
	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Eighth	Ninth	Tenth	Eleventh	Twelfth	Thirteenth	Fourteenth	Fifteenth	Sixteenth	Seventeenth	Eighteenth	Nineteenth	Twentieth	Twenty-first			
	Inside																							
Falls of coal, slate and roof, .....	23	17	22	17	21	19	25	12	9	8	15	4	12	13	10	9	2	8	12	8	13	279	32.98	
Mine cars, .....	28	20	8	10	10	20	14	10	10	4	11	4	8	6	...	4	2	8	5	9	8	139	23.52	
Explosions of gas, .....	5	4	...	...	...	14	19	2	4	...	2	2	9	12	3	7	4	9	9	4	6	109	23.52	
Explosions of powder and dynamite, .....	2	1	6	2	1	4	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	29	3.43	
Blasts, premature and otherwise, .....	4	6	5	7	5	11	18	1	3	3	4	...	...	3	2	2	5	2	4	1	3	89	10.52	
Falling into shafts, slopes, etc., .....	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	3	.36	
Falling from shafts, etc., .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	.36	
Crushed by batteries, .....	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	2	...	...	...	17	2.01	
Crushed by mules, etc., .....	4	1	2	...	...	...	2	1	1	...	...	...	1	1	...	...	...	2	...	...	1	6	.71	
Machinery, .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Electricity, .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Miscellaneous, .....	8	8	2	5	4	2	13	3	8	7	2	1	12	9	2	5	1	8	1	...	...	112	13.24	
Totals, .....	69	58	52	41	41	66	91	29	35	23	36	12	42	46	18	34	14	38	32	30	39	846	100.00	
Outside																								
Cars, .....	5	...	3	1	...	4	4	3	...	2	7	...	2	...	3	5	...	4	2	1	2	50	33.56	
Machinery, .....	...	...	...	...	...	1	3	2	...	1	2	...	...	1	...	1	1	...	1	1	...	16	10.74	
Boiler explosions, .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	.67	
Electricity, .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Miscellaneous, .....	6	1	2	...	...	5	5	3	5	2	9	...	1	10	2	5	2	10	2	6	5	81	54.36	
Totals, .....	11	1	7	1	...	10	13	8	5	5	18	...	3	13	5	12	3	14	5	8	7	149	100.00	
Grand totals inside and outside, .....	80	59	59	42	41	76	104	37	40	28	54	12	45	59	23	46	17	52	37	38	46	995	.....	

TABLE D.—Number of gaseous and non-gaseous mines in operation, number of foremen, assistants and fire bosses; production and percentage of production in net tons from gaseous and non-gaseous mines and washeries, by districts, 1915

Districts	Gaseous Mines				Non-Gaseous Mines				Production in tons of 2,000 pounds from gaseous mines	Production in tons of 2,000 pounds from non-gaseous mines	Production in tons of 2,000 pounds from washeries	Percentage of production from gaseous mines	Percentage of production from non-gaseous mines	Percentage of production from washeries
	Number of gaseous mines in operation	Number of mine foremen	Number of assistant mine foremen	Number of fire bosses	Number of non-gaseous mines in operation	Number of mine foremen	Number of assistant mine foremen							
First, .....	6	5	8	14	22	12	21	1,688,015	2,955,130	106,467	35.27	62.48	2.25	
Second, .....	23	14	19	75	4	4	3	3,572,309	318,915	566,151	80.15	7.15	12.70	
Third, .....	11	12	18	28	14	7	8	2,438,873	1,341,598	121,441	62.41	34.47	3.12	
Fourth, .....	22	18	13	61	15	6	4	3,337,453	4,066,028	265,444	83.46	10.00	6.54	
Fifth, .....	16	7	9	30	14	7	14	2,074,589	1,395,531	26,736	59.33	39.91	.76	
Sixth, .....	22	18	57	53	25	11	23	4,368,195	1,596,216	.....	73.24	26.76	.....	
Seventh, .....	41	26	15	180	3	2	2	5,660,733	267,605	269,705	91.33	4.32	4.35	
Eighth, .....	17	20	76	37	10	5	10	3,750,892	399,566	23,605	83.93	9.50	5.57	
Ninth, .....	42	18	30	91	4	4	7	4,690,132	456,095	496,498	83.12	8.08	8.80	
Tenth, .....	36	15	21	97	11	4	4	4,982,656	627,200	.....	88.84	11.16	.....	
Eleventh, .....	35	24	56	10	46	13	37	3,737,960	3,031,760	93,039	54.82	44.15	1.33	
Twelfth, .....	21	12	103	27	.....	.....	.....	2,421,574	797,374	113,830	89.82	7.71	3.77	
Thirteenth, .....	24	11	11	29	.....	.....	.....	2,497,856	382,074	313,689	89.42	11.58	8.82	
Fourteenth, .....	23	27	.....	.....	.....	.....	.....	2,918,292	332,074	68,12	22.06	68.42	9.52	
Fifteenth, .....	14	8	30	39	11	7	13	1,489,359	1,206,889	32,219	54.59	44.23	1.18	
Sixteenth, .....	25	10	41	55	13	5	20	2,050,565	1,111,960	43,399	63.96	34.68	1.36	
Seventeenth, .....	20	22	22	62	24	4	7	4,093,475	1,885,393	294,004	77.63	16.77	5.60	
Eighteenth, .....	21	13	41	22	25	3	19	2,560,395	979,298	.....	72.33	27.67	.....	
Nineteenth, .....	32	17	59	48	13	5	8	2,842,606	934,134	102,972	73.27	24.08	2.65	
Twentieth, .....	23	12	73	31	.....	.....	.....	1,978,696	.....	323,576	85.95	14.05	.....	
Twenty-first, .....	4	3	3	14	33	19	22	460,218	2,691,542	215,662	13.86	81.71	4.43	
Totals and percentages, .....	483	312	864	983	312	123	234	64,174,970	21,754,309	3,418,427	70.79	24.37	4.84	

TABLE E.—Quantity of coal produced by each company that produced 300,000 or more tons, and the number of persons employed, 1915

Names of Companies	Inspection Districts	Production of coal in net tons				Total number of employees				Number of employees outside				Number of employees inside			
		1915				1914				1913				1912			
Philadelphia and Reading Coal and Iron Company, .....	Twelfth, Thirteenth, Fourteenth, Fifteenth, Sixteenth, Eighteenth, Nineteenth, Twentieth, .....	17,707	7,220	24,927	11,033,100	14,543	3,846	15,389	8,574,315	11,543	3,846	15,389	8,574,315	14,543	3,846	15,389	8,574,315
Delaware, Lackawanna and Western Railroad Company, .....	Second, Third, Fourth, Fifth, Seventh, Eighth, Ninth, Tenth, .....	17,148	3,362	20,510	10,251,060	17,148	3,362	20,510	10,251,060	17,148	3,362	20,510	10,251,060	17,148	3,362	20,510	10,251,060
Delaware and Hudson Company, .....	First, Second, Fourth, Sixth, Seventh, Ninth, Twelfth, Fifteenth, .....	14,496	4,286	18,782	9,851,529	14,496	4,286	18,782	9,851,529	14,496	4,286	18,782	9,851,529	14,496	4,286	18,782	9,851,529
Lehigh Valley Coal Company, .....	First, Sixth, Seventh, Eighth, Eleventh, Twelfth, Fourteenth, Fifteenth, Sixteenth, .....	11,543	3,846	15,389	8,574,315	11,543	3,846	15,389	8,574,315	11,543	3,846	15,389	8,574,315	11,543	3,846	15,389	8,574,315
Pennsylvania Coal Company, .....	Third, Fifth, Sixth, .....	9,088	2,674	11,762	6,102,517	9,088	2,674	11,762	6,102,517	9,088	2,674	11,762	6,102,517	9,088	2,674	11,762	6,102,517
Lehigh and Wilkes-Barre Coal Company, .....	Seventh, Ninth, Tenth, Eighteenth, .....	8,259	2,341	10,601	5,915,488	8,259	2,341	10,601	5,915,488	8,259	2,341	10,601	5,915,488	8,259	2,341	10,601	5,915,488
Susquehanna Coal Company, .....	Tenth, Thirteenth, Fifteenth, Sixteenth, Twentieth, .....	8,792	3,762	12,554	5,009,351	8,792	3,762	12,554	5,009,351	8,792	3,762	12,554	5,009,351	8,792	3,762	12,554	5,009,351
Lehigh Coal and Navigation Company, .....	Seventeenth, .....	5,645	2,507	8,152	4,585,022	5,645	2,507	8,152	4,585,022	5,645	2,507	8,152	4,585,022	5,645	2,507	8,152	4,585,022
Scranton Coal Company, .....	First, Second, Third, Fourth, Twenty-first, .....	3,693	1,315	5,008	2,161,790	3,693	1,315	5,008	2,161,790	3,693	1,315	5,008	2,161,790	3,693	1,315	5,008	2,161,790
G. B. Markle Company, .....	Eleventh, .....	1,913	867	2,785	1,902,590	1,913	867	2,785	1,902,590	1,913	867	2,785	1,902,590	1,913	867	2,785	1,902,590
Coxe Brothers and Company, Incorporated, .....	Eleventh, Seventeenth, Eighteenth, .....	1,646	779	2,425	1,906,132	1,646	779	2,425	1,906,132	1,646	779	2,425	1,906,132	1,646	779	2,425	1,906,132
Ellisburg Coal and Iron Company, .....	First, Fifth, Sixth, Twenty-first, .....	2,772	862	3,634	1,726,400	2,772	862	3,634	1,726,400	2,772	862	3,634	1,726,400	2,772	862	3,634	1,726,400
Kingston Coal Company, .....	Eleventh, Ninth, .....	1,073	654	1,727	1,395,013	1,073	654	1,727	1,395,013	1,073	654	1,727	1,395,013	1,073	654	1,727	1,395,013
Forty Fort Coal Company, .....	Twelfth, .....	1,369	428	1,797	1,369,412	1,369	428	1,797	1,369,412	1,369	428	1,797	1,369,412	1,369	428	1,797	1,369,412
Wash End Coal Company, .....	Tenth, .....	1,369	428	1,797	1,369,412	1,369	428	1,797	1,369,412	1,369	428	1,797	1,369,412	1,369	428	1,797	1,369,412
Pardee Brothers and Company, Incorporated, .....	Eleventh, .....	618	355	973	618,138	618	355	973	618,138	618	355	973	618,138	618	355	973	618,138
Temple Coal Company, .....	First, Twenty-first, .....	923	260	1,183	624,700	923	260	1,183	624,700	923	260	1,183	624,700	923	260	1,183	624,700
Price-Fancoast Coal Company, .....	Third, .....	1,130	237	1,367	599,710	1,130	237	1,367	599,710	1,130	237	1,367	599,710	1,130	237	1,367	599,710
Harleigh-Brookwood Coal Company, .....	Eleventh, Thirteenth, Fourteenth, .....	768	435	1,203	526,056	768	435	1,203	526,056	768	435	1,203	526,056	768	435	1,203	526,056
Jermyn and Company, .....	Fifth, .....	685	200	885	503,995	685	200	885	503,995	685	200	885	503,995	685	200	885	503,995
Dodson Coal Company, .....	Eighteenth, .....	522	219	741	493,895	522	219	741	493,895	522	219	741	493,895	522	219	741	493,895
C. M. Dodson and Company, .....	Eleventh, .....	483	261	744	493,895	483	261	744	493,895	483	261	744	493,895	483	261	744	493,895
Mayd Coal Company, .....	Eighteenth, .....	375	178	553	414,661	375	178	553	414,661	375	178	553	414,661	375	178	553	414,661
Thomas Colliery Company, .....	Thirteenth, .....	295	230	525	410,846	295	230	525	410,846	295	230	525	410,846	295	230	525	410,846
Saint Clair Coal Company, .....	Nineteenth, .....	353	348	701	410,821	353	348	701	410,821	353	348	701	410,821	353	348	701	410,821
Blackfoot Coal Company, .....	Eleventh, .....	688	133	826	389,877	688	133	826	389,877	688	133	826	389,877	688	133	826	389,877
Lytle Coal Company, .....	Eighteenth, .....	864	266	1,130	599,710	864	266	1,130	599,710	864	266	1,130	599,710	864	266	1,130	599,710
Locust Mountain Coal Company, .....	Thirteenth, .....	339	266	605	377,415	339	266	605	377,415	339	266	605	377,415	339	266	605	377,415



TABLE E.—Continued

Names of Companies	Inspection Districts	Number of employees inside	Number of employees outside	Total number of employees	Production of coal in net tons
Alden Coal Company, .....	Tenth, .....	588	193	781	369,431
Pine Hill Coal Company, .....	Nineteenth, .....	513	194	707	330,342
Connell Anthracite Mining Company, .....	Twenty-first, .....	364	168	532	349,801
Lackawanna Coal Company, Limited, .....	Fourteenth, .....	335	179	514	342,529
Midvalley Coal Company, .....	Nineteenth, .....	400	210	610	332,530
Oak Hill Coal Company, .....	Nineteenth, .....	451	141	592	332,461
Buck Run Coal Company, .....	Nineteenth, .....	451	141	592	320,985
Totals, .....	.....	119,161	40,230	159,391	80,953,546

The 36 companies named in this table, out of 115 companies in the region, produced 80,953,546 tons, or 90.58 per cent. of the total output, 89,377,706 tons.

TABLE F.—Classification of employees killed or fatally injured inside and outside the mines, 1899-1915, inclusive

Employees Killed or Fatally Injured	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	Totals
<b>Inside</b>																		
Mine foremen and assistants, .....	2	.....	5	2	3	3	1	2	2	3	1	2	2	1	3	2	5	39
Fire bosses and assistants, .....	2	.....	2	3	2	1	2	6	2	3	2	2	2	1	8	4	1	51
Miners, .....	199	184	224	114	202	233	308	228	309	313	264	264	306	262	286	246	281	4,261
Miners' laborers, .....	114	95	122	62	110	145	148	133	136	154	126	147	176	117	143	126	143	2,202
Drivers and runners, .....	39	33	45	27	46	31	31	32	46	49	37	40	45	42	33	28	40	614
Doorboys, etc., .....	18	8	6	5	12	20	14	9	18	18	11	6	15	8	7	8	10	193
All other employees, .....	15	23	27	32	51	63	47	43	58	56	49	58	66	67	72	70	47	899
Totals, .....	339	353	441	245	426	496	551	456	601	596	490	509	615	498	557	534	527	8,289
<b>Outside</b>																		
Foremen, .....	1	.....	.....	.....	.....	.....	.....	2	.....	2	1	.....	4	1	3	1	2	19
Blacksmiths and carpenters, .....	2	2	.....	2	4	5	5	5	.....	5	4	6	7	3	1	5	3	60
Engineers and firemen, .....	6	2	5	7	6	3	8	3	8	4	7	4	2	7	1	1	6	83
Slatepickers, .....	10	9	9	12	9	11	11	14	16	14	7	8	8	8	5	3	5	166
All other employees, .....	53	40	58	34	72	79	58	77	82	57	58	74	63	87	59	53	45	1,049
Totals, .....	72	53	72	55	92	99	93	101	107	82	77	92	84	103	67	66	61	1,376
Grand totals inside and outside, ....	401	411	513	300	519	595	644	557	708	678	567	601	699	601	624	600	588	9,665

Note.—This table shows the number of mine foremen, assistant mine foremen, fire bosses and assistants, miners, miners' laborers, drivers, runners, doorboys, helpers and all other employees killed in each year, from 1899 to 1915, inclusive, a period of 17 years. 8,289 lives were lost inside the mines, 90 of the fatalities among the mine foremen, assistant mine foremen, and fire bosses or 1.09 per cent. of the total. 4,261 fatalities occurred among the miners or 51.41 per cent. of the inside accidents, 2,202 occurred among the miners' laborers or 26.56 per cent. The fatalities among the drivers, runners, doorboys and other employees inside numbered 1,736 or 20.94 per cent. The number of fatalities inside and outside the mines for the 17 years was 9,665, of which 8,289 or 85.76 per cent. occurred inside and 1,376 or 14.24 per cent. outside. This table gives a fair illustration of the comparative dangers encountered inside and outside the mines in the mining and preparation of anthracite coal for market.



TABLE H.—Nationality of employees killed or fatally injured inside and outside the mines, 1892-1915, inclusive

Nationality	1892-1895	1896-1900	1901-1905	1906-1910	1911-1915
American, .....	310	404	617	618	691
English, .....	124	132	94	78	72
Welsh, .....	154	176	122	122	84
Scotch, .....	8	21	12	9	6
Irish, .....	287	332	212	159	114
German, .....	93	97	97	80	65
Totals, .....	976	1,162	1,154	1,066	932
Polish, .....	430	609	639	325	819
Hungarian, .....	195	186	103	39	37
Italian, .....	67	85	142	216	231
Slavonian, .....	30	42	151	200	270
Lithuanian, .....	17	36	152	321	386
Austrian, .....	20	39	84	17	123
Russian, .....	7	39	88	150	204
Greek, .....	5	15	9	13	39
Swedish, .....	3	10	4	5	6
French, .....	1	2	2	.....	2
Tyrolean, .....	.....	3	9	13	8
Bohemian, .....	.....	1	.....	3	4
Assyrian, .....	.....	.....	1	.....	1
Canadian, .....	.....	.....	2	.....	.....
Montenegrin, .....	.....	.....	.....	2	2
Horwat, .....	.....	.....	.....	.....	7
Magyar, .....	.....	.....	.....	.....	8
Bulgarian, .....	.....	.....	.....	.....	1
Syrian, .....	.....	.....	.....	.....	1
Croatian, .....	.....	.....	.....	.....	1
Totals, .....	765	1,050	1,416	2,045	2,180
Grand totals, .....	1,741	2,212	2,570	3,111	3,112

TABLE I.—Production of coal; production per employee inside; quantity of explosives used and production per each pound of explosives used; 1899-1915, inclusive

Years	Production in tons of 2,000 pounds	Average number of tons of coal produced per employee inside	Explosives			Average number of tons of coal produced for each pound of explosives used
			Number of pounds of black powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
1899, .....	60,518,331	677	34,317,275	3,649,417	.....	1.59
1900, .....	57,893,296	609	30,929,500	3,454,641	.....	1.67
1901, .....	67,094,665	682	38,030,109	4,155,685	.....	1.59
1902, .....	41,340,935	*482	21,128,675	2,130,965	.....	†1.77
1903, .....	75,232,585	†737	42,529,400	5,317,422	.....	1.57
1904, .....	73,594,369	662	44,779,800	6,519,312	.....	1.43
1905, .....	78,647,030	667	47,570,500	8,353,594	.....	1.41
1906, .....	72,139,510	627	40,352,075	7,980,733	.....	1.41
1907, .....	86,056,412	730	47,636,700	10,544,781	.....	1.48
1908, .....	83,543,243	672	49,380,800	10,766,245	.....	1.39
1909, .....	80,223,833	651	41,191,857	10,724,616	666,827	1.53
1910, .....	83,683,994	689	45,112,322	11,171,458	1,506,140	1.45
1911, .....	90,917,176	721	47,846,483	13,369,056	2,122,264	1.44
1912, .....	84,426,869	661	41,401,015	13,685,062	2,037,026	1.48
1913, .....	81,626,964	712	44,001,660	16,093,035	3,322,645	1.44
1914, .....	91,189,641	689	44,336,113	17,244,174	4,246,347	1.39
1915, .....	89,377,706	681	42,763,060	15,376,447	5,577,707	1.40

The ton of 2,000 pounds is used so that a comparison can be made with the bituminous production per pound of powder used.

\*This decrease in production per employee inside was caused by the small number of days worked on account of the strike.

†The increase in production per pound of powder used was caused by the production of the washeries during the strike.

‡The increase in production per employee was due to the large production of the washeries.

TABLE J.—Number of employees inside and outside the mines by counties, 1899-1915, inclusive

Counties	1899	1900	1901	1902	1903	1904	1905	1906	1907
Carbon, .....	3,993	4,242	4,365	3,805	4,051	4,467	4,240	4,469	4,782
Columbia, .....	2,302	2,033	2,329	2,339	2,236	2,192	2,368	2,246	2,295
Dauphin, .....	2,390	2,577	2,353	1,945	2,140	2,113	2,167	2,233	2,124
Lackawanna, .....	30,886	32,811	34,798	35,333	37,470	40,675	40,859	41,429	42,742
Luzerne, .....	50,803	52,015	53,280	52,766	55,639	59,136	60,734	54,441	58,975
Northumberland, .....	14,697	15,106	14,187	14,863	14,580	14,345	15,208	14,730	15,709
Schuylkill, .....	33,352	33,259	33,907	34,960	33,443	35,979	40,465	40,289	39,870
Sullivan, .....	1,210	1,240	1,321	782	648	665	536	634	719
Susquehanna, .....	1,200	1,111	1,589	1,386	1,363	1,322	1,307	1,320	1,275
Wayne, .....	406	11	589	.....	253	366	370	384	463
Totals, .....	140,604	143,824	147,651	148,139	151,827	161,330	163,254	166,175	168,774

Counties	1908	1909	1910	1911	1912	1913	1914	1915
Carbon, .....	5,522	5,155	5,362	5,223	5,778	5,689	8,021	5,794
Columbia, .....	2,412	2,333	1,812	2,066	2,146	2,139	2,069	1,696
Dauphin, .....	2,294	2,215	2,229	2,280	2,347	2,450	2,469	2,438
Lackawanna, .....	42,418	44,213	43,214	43,991	43,927	43,925	44,124	44,000
Luzerne, .....	63,099	60,500	59,395	62,880	63,128	63,898	68,202	67,081
Northumberland, .....	15,581	14,878	15,133	15,148	15,392	15,075	15,320	14,898
Schuylkill, .....	40,775	39,457	38,653	39,285	39,822	39,670	38,521	38,521
Sullivan, .....	875	963	920	992	986	1,024	1,063	1,053
Susquehanna, .....	1,302	1,267	1,267	1,313	1,331	1,420	1,539	1,563
Wayne, .....	225	194	190	160	151	40	1,97	1,116
Totals, .....	174,509	171,195	168,177	173,333	175,098	175,310	180,899	177,339



TABLE K.—Production of coal in tons of 2,000 pounds by counties, 1899-1915, inclusive

Counties	1899	1900	1901	1902	1903	1904	1905	1906	1907
Carbon, .....	1,896,267	1,863,637	1,858,519	1,104,462	2,150,021	2,253,512	2,476,406	2,246,823	2,762,523
Columbia, .....	1,002,469	890,721	1,209,859	738,070	1,353,904	1,151,624	1,229,697	969,065	1,188,268
Dauphin, .....	817,328	779,135	830,572	423,341	732,970	723,414	723,126	734,723	829,980
Lackawanna, .....	11,838,821	13,755,961	17,268,135	11,851,169	20,046,733	19,007,628	19,709,164	18,840,561	22,432,409
Lehigh, .....	22,278,712	21,481,122	23,963,869	14,577,949	27,878,362	27,705,288	29,992,636	26,612,192	39,853,087
Monroe, .....	4,860,292	4,690,944	5,430,991	3,162,066	5,618,580	5,616,647	5,483,181	5,367,497	6,065,352
Northumberland, .....	13,694,171	12,998,899	15,277,658	8,622,103	16,389,046	16,173,138	17,975,160	16,376,589	20,193,101
Schuylkill, .....	183,132	235,112	152,595	409,017	294,442	294,305	350,436	350,436	350,436
Sullivan, .....	699,020	556,003	743,105	462,758	800,732	624,732	580,436	562,103	644,098
Susquehanna, .....	309,069	21,862	393,462	.....	68,886	71,353	67,008	71,381	85,594
Wayne, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals, .....	90,518,331	57,363,396	67,094,605	41,340,935	75,232,585	73,594,369	78,647,020	72,133,510	86,056,412

Counties	1908	1909	1910	1911	1912	1913	1914	1915
Carbon, .....	2,784,946	2,652,997	3,214,169	3,312,483	2,843,876	3,363,277	2,186,691	3,337,156
Columbia, .....	1,182,326	1,493,103	960,145	1,193,736	1,214,527	1,214,648	1,066,471	1,202,465
Dauphin, .....	848,005	932,333	886,192	1,046,963	945,102	1,060,270	1,000,988	1,972,110
Lackawanna, .....	21,631,995	20,489,212	21,132,921	22,698,414	20,617,308	21,836,671	21,649,788	21,697,563
Lehigh, .....	31,728,997	30,392,306	32,106,979	35,061,582	32,643,232	36,326,287	36,973,767	38,296,086
Northumberland, .....	6,067,741	5,837,835	6,324,317	7,109,372	6,831,491	7,012,687	6,710,131	6,384,459
Schuylkill, .....	18,196,714	16,794,597	17,696,013	19,234,447	17,986,745	19,511,483	19,493,750	19,694,353
Sullivan, .....	550,712	489,835	632,874	717,429	689,256	689,256	655,249	660,076
Susquehanna, .....	487,900	595,835	628,808	672,900	589,343	594,763	589,343	760,274
Wayne, .....	63,906	50,339	51,576	61,180	82,843	52,814	133,402	105,274
Totals, .....	83,543,243	80,223,833	83,683,994	90,917,176	84,426,569	91,626,964	91,189,441	89,377,706

TABLE I.—Fatal accidents per 1,000 employes inside and outside the mines, and production in tons per fatal accident, by years and by decades, 1870-1915, inclusive

Years	Employes	Fatal accidents	Fatal accidents per 1,000 em- ployes	Production in pounds in tons of 2,000	Production per fatal accident	Fatal accidents per 1,000,000 tons produced
1870, .....	35,600	211	5.93	14,172,004	67,166	14.89
1871, .....	37,488	210	5.60	15,532,252	73,963	13.52
1872, .....	44,745	223	4.98	15,567,973	69,811	14.32
1873, .....	48,199	264	5.48	21,001,521	79,551	12.57
1874, .....	53,402	231	4.33	19,330,240	86,278	11.59
1875, .....	69,966	238	3.40	23,402,646	98,330	10.17
1876, .....	70,474	228	3.24	23,440,666	102,810	9.73
1877, .....	66,842	194	2.90	24,727,213	127,460	7.85
1878, .....	63,964	187	2.92	20,900,966	111,770	8.95
1879, .....	68,847	262	3.81	31,036,600	118,460	8.44
Totals and percentages, .....	559,527	2,248	4.02	209,712,081	93,288	10.72
1880, .....	73,373	202	2.75	27,974,532	138,488	7.22
1881, .....	76,031	274	3.59	34,202,558	125,284	7.98
1882, .....	82,200	291	3.54	35,057,430	120,472	8.30
1883, .....	91,421	323	3.53	37,747,369	116,865	8.56
1884, .....	101,073	332	3.28	36,468,738	109,846	9.10
1885, .....	100,320	332	3.31	38,232,155	115,157	8.68
1886, .....	103,044	279	2.71	38,950,932	139,609	7.16
1887, .....	106,517	316	2.97	42,156,300	133,406	7.50
1888, .....	122,218	364	2.98	46,635,037	128,118	7.81
1889, .....	119,646	397	3.32	43,650,768	109,952	9.09
Totals and percentages, .....	975,843	3,109	3.10	381,075,819	122,572	8.16
1890, .....	119,919	378	3.15	44,986,286	119,011	8.40
1891, .....	123,308	428	3.47	49,701,222	116,125	8.61
1892, .....	130,300	418	3.21	51,226,978	122,553	8.16
1893, .....	138,069	456	3.30	52,841,110	115,880	8.63
1894, .....	139,939	446	3.19	50,966,920	114,276	8.75
1895, .....	143,705	421	2.93	56,948,756	135,270	7.39
1896, .....	150,088	502	3.34	53,833,250	107,257	9.32
1897, .....	149,557	423	2.83	52,833,036	124,305	8.04
1898, .....	142,420	411	2.89	52,812,675	128,498	7.73
1899, .....	140,604	461	3.28	60,518,331	131,276	7.62
Totals and percentages, .....	1,377,909	4,344	3.15	526,426,664	121,185	8.25
1900, .....	143,824	411	2.86	57,363,396	139,570	7.16
1901, .....	147,651	513	3.47	67,094,665	120,789	7.65
1902, .....	148,139	300	2.03	41,340,935	137,803	7.26
1903, .....	151,827	518	3.41	75,232,585	145,237	6.89
1904, .....	161,330	595	3.69	73,594,369	123,688	8.08
1905, .....	168,254	644	3.83	78,647,020	122,123	8.19
1906, .....	166,175	557	3.35	72,139,510	129,514	7.72
1907, .....	168,774	708	4.20	86,056,412	121,549	8.23
1908, .....	174,503	678	3.88	83,543,243	123,220	8.12
1909, .....	171,195	567	3.31	80,223,833	141,488	7.07
Totals and percentages, .....	1,601,672	5,491	3.42	715,235,946	130,256	7.68

TABLE L.—Continued

Years	Employees	Fatal accidents	Fatal accidents per 1,000 employes	Production in tons of 2,000 pounds	Production per fatal accident	Fatal accidents per 1,000,000 tons produced
1910, .....	168,175	601	3.57	83,683,994	139,241	7.18
1911, .....	173,338	699	4.03	90,917,176	130,067	7.69
1912, .....	175,098	601	3.43	84,426,869	140,477	7.12
1913, .....	175,310	624	3.56	91,626,964	146,838	6.81
1914, .....	180,899	600	3.32	91,189,641	151,982	6.58
1915, .....	177,339	588	3.32	89,377,706	152,003	6.58
Totals and percentages, .....	1,050,159	3,713	3.54	531,222,350	143,071	6.99
Grand totals and percentages, .....	5,565,110	18,905	3.40	2,363,672,860	125,029	8.00

Note:—The Anthracite Mine Law became effective in 1870, and the average number of fatalities for the first decade, 1870-1879 inclusive, was 4.02 per 1,000 employes and 10.72 for every 1,000,000 tons produced.

The average number of fatalities for the second decade, 1880-1889 inclusive, was 3.10 per 1,000 employes and 8.16 for every 1,000,000 tons produced.

The average number of fatalities for the third decade, 1890-1899 inclusive, was 3.15 per 1,000 employes and 8.25 for every 1,000,000 tons produced.

The average number of fatalities for the fourth decade, 1900-1909 inclusive, was 3.42 per 1,000 employes and 7.68 for every 1,000,000 tons produced.

The average number of fatalities for the six years 1910-1915 inclusive, was 3.54 per 1,000 employes and 6.99 for every 1,000,000 tons produced.

The record for 1915 of 3.32 (the same as in 1914) lives lost for every 1,000 employes and 6.58 for every 1,000,000 tons produced is a good record under the circumstances and is gratifying to the Department.



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# ANTHRACITE DISTRICTS

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## FIRST DISTRICT

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### LACKAWANNA COUNTY

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Carbondale, Pa., February 29, 1916.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my report as Inspector of Mines for the First Anthracite District for the year ending December 31, 1915.

Respectfully submitted,

P. J. MOORE,  
Inspector.

## SUMMARY OF STATISTICS

Number of collieries, .....	14
Number of mines, .....	28
Number of mines in operation, .....	28
Number of tons of coal shipped to market, .....	3,805,628
Number of tons used at mines for steam and heat, .....	370,036
Number of tons sold to local trade and used by employes, .....	47,204
Number of tons produced, .....	4,222,868
Number of tons produced by compressed air machines, .....	.....
Number of tons produced by electrical machines, .....	.....
Number of persons employed inside of mines, .....	6,997
Number of persons employed outside, .....	2,121
Number of fatal accidents inside of mines, .....	32
Number of fatal accidents outside, .....	6
Number of non-fatal accidents inside of mines, .....	69
Number of non-fatal accidents outside, .....	11
Number of tons of coal produced per fatal accident inside, .....	131,965
Number of tons produced per fatal accident outside, ...	703,811
Number of tons produced per fatal accident inside and outside, .....	111,128
Number of persons employed per fatal accident inside, ..	219
Number of persons employed per fatal accident outside, ..	353
Number of persons employed per fatal accident inside and outside, .....	240
Number of persons employed per non-fatal accident inside, .....	101
Number of persons employed per non-fatal accident outside, .....	193
Number of persons employed per non-fatal accident inside and outside, .....	114
Number of wives made widows, .....	18
Number of children made orphans, .....	56
Number of steam locomotives used inside of mines, ....	.....
Number of steam locomotives used outside, .....	30
Number of compressed air locomotives used inside, ....	19
Number of compressed air locomotives used outside, ...	.....
Number of electric motors used inside, .....	69
Number of electric motors used outside, .....	.....
Number of gasoline locomotives used inside, .....	.....
Number of fans in use, .....	30
Number of furnaces in use, .....	.....
Number of gaseous mines in operation, .....	6
Number of non-gaseous mines in operation, .....	22
Number of new mines opened, .....	.....
Number of old mines abandoned, .....	.....

TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
Delaware and Hudson Company, .....	3,077,301
Temple Coal Company, .....	465,298
Seranton Coal Company, .....	346,070
Hillside Coal and Iron Company, .....	146,240
Archbald Coal Company, .....	145,204
West Mountain Coal Company, .....	12,376
Humbert Coal Company, .....	11,953
Sacandaga Coal Company, .....	9,667
Fall Brook Coal Company, .....	8,759
Total, .....	<u>4,222,868</u>

## Production by Counties

Lackawanna, .....	<u>4,222,868</u>
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TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Delaware and Hudson Co., .....	18	6	24	69	10	79	170,961	51,238	4,956	1,411	6,367	275	235	83	141
Union Coal Co., .....	2	2	4	2	2	4	222,649	232,649	719	180	899	360	.....	390	.....
Serston Coal Co., .....	4	.....	4	4	.....	4	86,518	86,518	688	266	954	172	.....	172	.....
Hillside Coal and Iron Co., .....	.....	.....	.....	.....	.....	.....	48,747	48,747	199	86	285	66	.....	.....	.....
Archibald Coal Co., .....	.....	.....	.....	.....	.....	.....	29,041	72,602	231	92	376	57	.....	142	.....
West Mountain Coal Co., .....	.....	.....	.....	.....	.....	.....	12,376	12,376	38	15	53	.....	.....	38	.....
Humbert Coal Co., .....	.....	.....	.....	.....	.....	.....	11,953	11,953	64	46	110	.....	.....	.....	46
Miscellaneous Companies, .....	.....	.....	.....	.....	.....	.....	.....	.....	49	25	74	.....	.....	.....	.....
Totals and averages, .....	32	6	38	69	11	80	131,965	61,201	6,997	2,121	9,118	219	353	101	193



TABLE C.—Causes of Fatal Accidents Inside and Outside of Mines

	Months												Totals	Percentages
	January	February	March	April	May	June	July	August	September	October	November	December		
Inside														
Falls of coal, .....	.....	.....	.....	.....	1	.....	.....	1	.....	.....	.....	.....	2	6.25
Falls of roof, .....	1	1	1	4	1	5	1	.....	1	.....	2	1	19	59.37
Mine cars, .....	1	1	.....	.....	.....	.....	.....	.....	1	2	.....	.....	6	15.62
Blasts, premature and otherwise, .....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	4	12.50
Mules, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	3.13
Scalded in sump, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	3.13
Totals, .....	5	2	1	4	2	5	1	1	2	3	4	2	32	100.00
Outside														
Cars, .....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	2	33.33
Machinery, .....	1	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	3	50.00
By falling, .....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	16.67
Totals, .....	1	.....	.....	.....	1	.....	.....	1	2	.....	.....	1	6	100.00
Grand totals, .....	6	2	1	4	3	5	1	2	4	3	4	3	38	.....

TABLE D.—Causes of Non-Fatal Accidents Inside and Outside of Mines

	Months												Totals	Percentages
	January	February	March	April	May	June	July	August	September	October	November	December		
Inside														
Falls of coal, .....	1	.....	.....	.....	1	.....	2	.....	.....	.....	.....	.....	4	5.80
Falls of roof, .....	4	.....	4	.....	1	.....	1	1	.....	.....	1	2	19	27.53
Mine cars, .....	1	.....	.....	.....	3	6	3	2	4	.....	3	1	28	40.58
Explosions of powder and dynamite, .....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	2	2.90
Blasts, premature and otherwise, .....	1	1	.....	.....	.....	1	.....	.....	.....	.....	.....	1	4	5.80
Struck by piece of coal, .....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1.45
Struck by bar, .....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1.45
Struck by rope, .....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	2.90
Mules, .....	.....	.....	.....	.....	.....	1	.....	1	2	.....	.....	.....	4	5.79
Falling, .....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....	2	2.90
Struck by rail, .....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	1	1.45
Struck by screen, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	1.45
Totals, .....	8	7	4	5	7	10	6	5	6	2	4	3	69	100.00
Outside														
Cars, .....	.....	2	.....	.....	1	.....	1	.....	.....	1	.....	.....	5	45.45
Struck by frozen culm, .....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	9.09
Struck by wagon, .....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	9.09
Falling, .....	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....	.....	2	18.18
Struck by rope, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	9.09
Mules, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	9.10
Totals, .....	1	2	2	.....	1	1	1	.....	.....	2	.....	1	11	100.00
Grand totals, .....	9	9	6	5	8	11	7	5	6	4	4	6	80	.....

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months											
	January	February	March	April	May	June	July	August	September	October	November	December
Totals												
Inside												
Miners, .....	2	1	1	3	1	1	1	1	1	1	1	1
Miners' laborers, .....	2	1	1	1	1	4					2	1
Drivers and runners, .....	1	1							1	1	1	
Doorboys and helpers, .....									1	1		
Brakemen, .....												
Totals, .....	5	2	1	4	2	5	1	1	2	3	4	2
Outside												
Engineers and firemen, .....									1			1
Statepickers (boys), .....	1								1			2
Brakemen, .....					1			1				1
Laborers, .....												2
Totals, .....	1				1			1	2			6
Grand totals, .....	6	2	1	4	3	5	1	2	4	3	4	38

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months											
	January	February	March	April	May	June	July	August	September	October	November	December
Totals												
Inside												
Miners, .....	6	2	2	2	4	1	...	1	...	1	1	3
Miners' laborers, .....	1	2	1	1	1	4	4	1	...	1	1	2
Drivers and runners, .....	1	1	...	1	1	4	...	...	...	...	...	1
Doorboys and helpers, .....				1			1		...	...	...	2
Tracklayers, .....					1				...	...	...	1
Company men, .....									...	1	...	1
Brakemen, .....		1				1	1		...	...	...	3
Engineers, .....									1			1
Totals, .....	8	7	4	5	7	10	6	5	6	2	4	63
Outside												
Foremen, .....										1		1
Miners, .....							1		...	...	...	1
Brakemen, .....					1				...	...	...	1
Statepickers (boys), .....			1						...	...	...	1
Headmen, .....		1							...	...	...	2
Drivers, .....		1	1						...	...	1	4
Laborers, .....	1	1				1			...	1		
Totals, .....	1	2	2	...	1	1	1	...	...	2	...	11
Grand totals, .....	9	9	6	5	8	11	7	5	6	4	4	80

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months											
	January	February	March	April	May	June	July	August	September	October	November	Totals
American, .....	2	...	...	1	...	...	...	1	2	2	1	9
English, .....	...	...	...	...	...	...	...	...	1	...	1	2
Welsh, .....	...	...	...	...	...	...	...	...	1	...	1	2
Polish, .....	...	1	1	...	2	4	...	...	...	...	1	10
Italian, .....	4	1	...	1	1	1	...	1	...	1	...	10
Slavonian, .....	...	...	...	1	1	...	...	...	...	...	...	2
Austrian, .....	...	...	...	1	...	...	...	1	...	...	1	3
Russian, .....	...	...	...	...	...	...	1	...	...	...	...	1
Totals, .....	6	2	1	4	3	7	1	2	4	3	4	38

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months											
	January	February	March	April	May	June	July	August	September	October	November	Totals
American, .....	4	2	3	3	3	6	4	2	4	2	1	35
English, .....	...	1	...	...	...	...	...	...	1	...	...	2
Welsh, .....	...	...	...	...	...	...	...	...	...	1	...	2
German, .....	...	1	...	...	1	...	...	...	...	...	...	2
Polish, .....	2	...	...	...	...	1	2	3	1	...	...	9
Italian, .....	1	4	1	...	3	1	...	...	...	1	2	14
Slavonian, .....	...	...	...	1	...	1	...	...	...	...	...	2
Lithuanian, .....	...	...	...	...	...	...	1	...	...	...	1	2
Austrian, .....	1	...	...	...	...	2	...	...	...	...	...	3
Russian, .....	1	1	2	...	1	...	...	...	...	...	...	6
Greek, .....	...	...	...	1	...	...	...	...	...	...	...	1
Totals, .....	9	9	6	5	8	11	7	5	6	4	4	80

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Delaware and Hudson Co. Olyphant Colliery, No. 2, ... Grassy Island No. 2, ... Miles, .....	Shaft, ... Slope, ...	Gaseous, .. Gaseous, .. Gaseous, ..	Fan, .... Fan, .... Fan, ....	20 23 20	7 7.5 6	8 8 6	85 60 90	2 2 2	Jeffrey, ... Gubal, ... Gubal, ...	Steam, ..... Steam, ..... Steam, .....	7 10 4	180,500 205,600 35,000	135,000 184,400 95,400	217,400 237,000 95,000	450 947 180
Coal Brook Colliery: Coal Brook No. 1, ..... Coal Brook No. 2, Grassy, Coal Brook No. 3, Grassy, Coal Brook, Wilces, ..... Coal Brook, Wilson Creek Coal Brook, No. 1 Pattens	Tunnel, Tunnel, Slope, .....	Non-gas., .. Non-gas., .. Non-gas., ..	Fan, ... Fan, ... Fan, ...	17 17 17 20 20 13 10	4.25 4.25 4.25 5 5 4 2.5	4.25 4.25 4.25 6 6 4 2.5	75 75 90 73 73 90 95	1.7 1.5 1.5 1.2 1.2 1.5 1.5	Gubal, ... Gubal, ... Gubal, ... Gubal, ... Gubal, ... Gubal, ... Gubal, ...	Electricity, .. Electricity, .. Electricity, .. Electricity, .. Electricity, .. Electricity, .. Electricity, ..	2 2 4 4 5 2 2	35,000 50,500 50,500 75,000 85,000 85,400 45,000	98,000 50,500 65,000 75,400 80,500 40,000	40,000 70,000 80,500 90,400 110,000 48,400	100 240 210 240 300 130
Gravity Slope Colliery: No. 11, ..... No. 6, ..... Gravity Slope, .....	Tunnel, .. Tunnel, .. Slope, .....	Non-gas., .. Non-gas., .. Non-gas., ..	Fan, .... Fan, .... Fan, ....	17 10 20	5 8 5.5	5 3 6	90 100 60	1.6 1.8 1.5	Gubal, ... Gubal, ... Gubal, ...	Steam, ..... Steam, ..... Steam, .....	4 4 2	85,000 45,400 40,000	75,400 40,400 35,000	90,500 43,400 46,000	330 220 220
Powderly Colliery: Powderly, ..... Powderly, ..... Powderly No. 1, ..... Powderly No. 1, .....	Tunnel, .. Slope, ..... Tunnel, ..... Slope, .....	Non-gas., .. Non-gas., .. Non-gas., .. Non-gas., ..	Natural, ... Fan, ..... Fan, ..... Fan, ..... Fan, .....	17 10 10 10	4 4 4 8.5	4 4 4 2.5	85 140 140	1.2 1 1	Gubal, ... Gubal, ... Gubal, ... Buffalo, ...	Steam, ..... Steam, ..... Electricity, .. Electricity, ..	3 2 2 2	45,000 35,000 30,500 35,000	40,500 30,500 35,000 28,000	48,000 40,000 98,000 38,000	156 80 280 137

Jermyn Colliery:															
Jermyn, .....	Shaft, .....	Non-gas., ..	Fan, .....	{ 20 17 17 }	5 5 5	6 6 6	75 75 120	1.5 1.9 1.2	Guibal, .. Guibal, .. Guibal, ..	Steam, .. Steam, .. Electricity, ..	12 }	220,000	150,500	240,500	704
Temple Coal Co.															
Sterrick Creek Colliery:	Drift, .....	Gaseous, ..	Fan, .....	20	4.5	4.5	70	1.3	{ Guibal, .. }	Steam, .....	{ 2 4 4 }	50,400	45,500	60,000	250
Sterrick Creek, .....	Shaft, .....	Gaseous, ..	Fan, .....	{ 25 10 }	5.5 3.5 3.5	5.5 3.5 175	65 175	.5 .8				75,000	70,400	80,400	330
Sterrick Creek, .....	Shaft, .....	Gaseous, ..	Fan, .....	10								55,000	55,000	58,000	119
Scranton Coal Co.															
Raymond Colliery:	Slope, .....	Non-gas., ..	Fan, .....	14	6	5	100	1.2	Guibal, .. Guibal, ..	Steam, .. Steam, ..	{ 3 }	75,000	60,500	75,000	280
Raymond No. 3, .....	Slope, .....	Non-gas., ..	Fan, .....	18	5	5	75	1				70,400	58,000	75,000	277
Riverside Colliery:															
Riverside, .....	Shaft, .....	Gaseous, ..	Fan, .....	20	4	6	78	.5	Guibal, ..	Steam, .....	{ 3 }	55,000	40,000	58,000	121
Hillside Coal and Iron Co.															
Erie Colliery:	Shaft, .....	Non-gas., ..	Fan, .....	18	5	5	70	.5	Guibal, ..	Steam, .....	{ 3 }	45,400	30,000	48,000	199
Archbald Coal Co.															
Tappans Colliery:	Slope, .....	Non-gas., ..	Fan, .....	{ 16 12 }	5 3	6 3	75 80	.5 .3	{ Guibal, .. }	Steam, .. Steam, ..	{ 6 }	120,000	98,300	125,000	284
Tappans, .....	Slope, .....	Non-gas., ..	Fan, .....												
West Mountain Coal Co.															
West Mountain Colliery:	Drift, .....	Non-gas., ..	Fan, .....	12	3	3	75	.7	Guibal, ..	Steam, .....	{ 2 }	30,400	25,000	35,000	38
West Mountain, .....															
Humbert Coal Co.															
Sunnyside Colliery:	Tunnel, ..	Non-gas., ..	Fan, .....	6	3	4	90	.6	Guibal, ..	Steam, .....	{ 1 }	30,000	20,000	22,400	64
Sunnyside, .....															
Sacandaga Coal Co.															
Sacandaga No. 3 Colliery:	Drift, .....	Non-gas., ..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	{ 1 }	8,000	6,000	8,500	20
No. 3, .....															
Fall Brook Coal Co.															
Murrin's Colliery:	Drift, .....	Non-gas., ..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	{ 1 }	5,000	4,000	5,400	29
Murrin's, .....															



TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
•Delaware and Hudson Co. Olyphant, ..... Coal Brook, ..... Gravety Slope, ..... Powderly, ..... Jermyn, ..... Jermyn Washery, .....	Lackawanna, ... [Lackawanna, ...]	[E. R. Pettebone, ... Delaware and Hud- son Co., ..... Charles Dorrance, Jr., The Hudson Coal Co.,	Dorrancon, ..... Scranton, .....	[Fred Warner, ..... C. H. Constantine, ... R. C. Welliver, ..... C. H. Constantine, ... C. H. Constantine, ... C. H. Constantine, ...]	Scranton, ..... Carbondale, ..... Archbald, ..... Carbondale, ..... Carbondale, ..... Carbondale, .....	Delaware and Hudson
Temple Coal Co. Sterrick Creek, .....	Lackawanna, ...	Frank Hcmeilright, ..	Scranton, .....	Joseph Reese, .....	Olyphant, .....	Erie
Scranton Coal Co. Raymond, ..... Riverside, .....	Lackawanna, ... [Lackawanna, ...]	William L. Allen, ...	Scranton, .....	Daniel Young, Sr., ...	Scranton, .....	N. Y. O. and W.
Hillside Coal and Iron Co. Erie, .....	Lackawanna, ...	W. W. Ingalls, .....	Scranton, .....	J. P. Jennings, .....	Moosic, .....	Erie
Tappan, ..... Archbald Coal Co. West Mountain Coal Co. West Mountain, .....	Lackawanna, ... Lackawanna, ... Lackawanna, ...	James H. Hughes, ... John A. Komara, ....	Wilkes-Barre, ..... Jermyn, .....	Richard Howells, ... Thomas Kennedy, ....	Scranton, ..... Jermyn, .....	Delaware and Hudson N. Y. O. and W.
Sunnyside, ..... Humbert Coal Co. Sacandaga Coal Co. Sacandaga No. 3, .....	Lackawanna, ... Lackawanna, ... Lackawanna, ...	W. C. Humbert, ..... E. H. Leaning, .....	Jessup, ..... Scranton, .....	M. J. Loftus, ..... John A. Hines, .....	Jessup, ..... Scranton, .....	Erie Delaware and Hudson
Fall Brook Coal Co. Murrin's, .....	Lackawanna, ...	Frank Murrin, .....	Carbondale, .....	.....	.....	N. Y. O. and W.

\*Inside workings under Delaware and Hudson Co. Outside workings under the Hudson Coal Co.

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
*Delaware and Hudson Co.													
Olyphant, .....	{ Lackawanna, }	841,027	89,550	15,876	946,463	275	1,988	19	14	1,104,900	5,353	41,298	118
Crook, .....		645,497	42,189	.....	688,686	267	1,561	6	24	576,000	92,797	2,298	74
Gravity Slope, .....		411,885	50,977	5,547	468,409	271	1,041	4	13	365,025	148,289	21,607	69
Powderly, .....		432,174	25,794	.....	457,970	279	889	4	13	288,109	35,384	9,438	75
Jermyn, .....		383,196	26,461	.....	430,733	290	854	.....	6	340,100	54,698	.....	57
Totals, .....		2,719,789	234,956	27,496	2,982,241	.....	6,333	24	70	2,724,025	326,421	74,643	393
Washeries:													
Jermyn, .....	Lackawanna, .....	71,587	23,473	.....	95,060	153	34	.....	.....	.....	.....	.....	.....
Totals, .....		2,719,789	234,956	27,496	2,982,241	.....	6,367	24	70	2,724,025	326,421	74,643	393
Temple Coal Co.													
Sterrick Creek, .....	Lackawanna, .....	434,036	26,325	4,924	465,298	226	899	2	2	282,650	65,550	.....	107
Scranton Coal Co.													
Raymond, .....	Lackawanna, .....	249,170	23,614	1,748	268,532	216	748	4	1	167,000	194,275	.....	69
Riverside, .....	Lackawanna, .....	46,745	30,295	498	77,538	153	206	.....	8	45,000	15,700	.....	28
Totals, .....		289,915	53,909	2,246	346,070	.....	954	4	4	212,000	209,971	.....	97
Hillside Coal and Iron Co.													
Erie, .....	Lackawanna, .....	128,698	16,784	758	146,240	203	285	3	.....	133,750	250	7,750	18
Archbald Coal Co.													
Tappan, .....	Lackawanna, .....	134,900	9,376	928	145,204	262	376	5	2	87,500	120,300	.....	26

\*Delaware and Hudson Co. inside. The Hudson Coal Co. outside.



TABLE 2.—Part 2  
Number and kinds of boilers and locomotives in use, number of steam engines, pumps, electric dynamos and air compressors in use, etc.

Names of Operators	County	Number of Boilers				Locomotives				Total horse power	Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Gasoline	Steam	Alr	Electric							
Delaware and Hudson Co., ...	Lackawanna.	18	486	51	12,284	12,871	...	18	19	58	167	16,144	33	59,250	14,400	13	6
Temple Coal Co., .....		...	...	8	1,800	1,800	...	2	4	4	27	2,770	3	2,700	2,200	4	2
Scranton Coal Co., .....		...	...	17	2,215	2,215	...	3	...	2	30	2,352	10	6,352	4,933	2	2
Hillside Coal and Iron Co., ..		...	...	8	1,200	1,200	...	...	5	...	25	1,285	2	1,732	1,569	...	...
Archbald Coal Co., .....		...	...	2	700	700	...	2	...	...	13	738	1	1,250	800	...	...
West Mountain Coal Co., .....		...	...	2	300	300	...	...	...	...	2	143	...	...	...	...	...
Richmond Coal Co., .....		...	...	3	200	200	...	...	...	...	6	183	...	...	...	...	...
Elk Creek Coal Co., .....		...	...	1	250	250	...	...	...	...	1	33	...	...	...	...	1
Sacandaga Coal Co., .....		...	...	...	150	150	...	1	...	...	...	30	...	...	...	...	...
Fall Brook Coal Co., .....		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals, .....		14	486	94	19,070	19,565	...	30	14	69	272	23,792	49	71,284	23,948	21	15

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside											Outside								Grand total	
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	SuperIntendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men,	Bookkeepers and clerks	All other employes	Total outside	
Delaware and Hudson Co.,	Lackawanna,	7	17	8	1,393	2,082	530	187	20	435	426	4,956	...	11	56	163	95	327	13	736	1,411	6,367
Temple Coal Co.,		2	3	6	186	238	96	9	8	60	55	719	1	2	11	11	15	34	2	103	180	859
Scranton Coal and Iron Co.		1	4	...	279	242	84	12	...	51	57	688	...	1	15	39	93	12	2	103	266	954
Hillside Coal and Iron Co.		1	...	...	73	72	9	2	...	34	...	199	...	1	7	7	18	5	1	47	86	235
Archbold Coal Co.,		1	2	...	97	123	34	7	2	16	2	234	...	1	1	11	10	6	1	55	92	376
West Mountain Coal Co.,		1	...	...	20	11	6	...	...	3	...	23	1	1	1	4	6	17	7	10	46	110
Humbert Coal Co.,		1	1	...	23	30	6	...	...	...	...	64	1	1	...	1	4	...	1	6	14	34
Sacandaga Coal Co.,		1	...	...	5	11	2	...	...	1	...	20	1	1	...	2	1	3	1	2	11	40
Fall Brook Coal Co.,		1	...	...	8	16	2	...	...	...	...	29	...	...	...	2	1	...	...	...	...	...
Totals,			17	29	14	2,089	2,885	769	317	35	600	342	6,997	5	19	100	244	243	414	25	1,988	2,121

\*Delaware and Hudson Co., inside. The Hudson Coal Co., outside.





TABLE 4.—Fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 6	John Ritko, .....	American, ..	Runner, .....	18	S.	....	....	Olyphant, .....		Fatally injured by being crushed by trip of loaded mine cars along main road. The trip was stopped and he and another runner had a mule to pull the trip a short distance. The other runner led the mule and Ritko unhooked the mule from the trip and a few minutes later the driver boss found Ritko lying alongside the track. Died when he reached the hospital.
14	{ Louis Manandy, .... James Chicchili, ...	{ Italian, .... Italian, ....	{ Miner, ..... Laborer, .....	{ 24 22	{ S. S.	....	....	{ Erle, ..... } }		Fatally injured by firing coals from a blast in face of chamber. Manandy was tampering the charge when in some unknown manner it was ignited. The cartridge was too large to pass in the inside end of hole, owing to the "bit" being too small. They were trying to drive the powder back with drill when it exploded. Fatally injured. He fell against sprocket wheel of small conveyor line under the breaker and was dragged along with the conveyors. He was walking alongside of conveyors and slipped on a step and fell back. The wheel on the step and fell back.
21	Pasco Tomahno, .....	American, ..	Slatepicker, ...	14	S.	....	....	Gravity Slope, ..	Lackawanna	Fatally injured by firing coals from a blast in face of chamber. Pasco was not an employee of the company or of the miner, but had been taken in by the laborer to be instructed how to load coal. The heading miner was taken back along the heading to take a light skip off and was about to fire a blast when Kenda and the laborer he was helping came out the heading road. They were told to go up a chamber opposite where the blast was being fired, but they did not go far enough. The firing coals struck a door and broke through it, striking Kenda.
23	Joseph Renda, .....	Italian, ....	Laborer, .....	25	S.	...	....	Gravity Slope, ..		

Jan. 28	Fabian Quatrone, ....	Italian, .....	Miner, .....	35	S.	....	...	Tappans, .....	Fatally injured by fall of roof at face of chamber while shoveling coal. Died at hospital February 13.
Feb. 19	Otillo Notchie, .....	Italian, .....	Runner, .....	19	S.	...	....	Raymond, ....	Fatally injured by being squeezed between two loaded cars on a curve along heading. He was trying to couple the cars while they were being bumped against others. He was on the short side of the curve.
27	Bennie Mofoskie, ....	Polish, .....	Laborer, .....	30	S.	...	....	Raymond, ....	Fatally injured by fall of roof at face of chamber while getting some tools near the pillar. The miner had the place well propped, but neglected this piece. Instantly killed by fall of roof at face.
March 6	Antonio Krokavage, ..	Polish, .....	Laborer, .....	22	S.	...	....	Powderly, ....	His miner had fired a shot which discharged a number of props. The laborer disobeyed the instructions given him by the miner and went to the face, when a fall of roof caught him.
April 10	{ Andrew Woshsky, .. { John Gaffney, .....	Austrian, .. American, ..	Miner, .. Miner, .....	49 46	M. M.	1 1	5 2	{ Powderly, ....	Fatally injured by fall of roof at face of chamber. They fired a blast which discharged a prop, and while replacing it the roof fell.
17	Martin Findura, .....	Slavonian, ..	Miner, .....	37	M.	1	3	Sterrick Creek.	Fatally injured by fall of roof at face of pillar. He fired a blast which discharged a prop that was supporting a piece of rock, and when he returned the piece fell on him.
26	Dominick Baltine, ....	Italian, .....	Laborer, .....	18	S.	....	....	Gravity Slope, ..	Fatally injured by fall of roof back 15 feet from face of chamber.
May 6	Joseph Kaleta, .....	Polish, .....	Laborer, .....	21	S.	...	....	Tappans, .....	Fatally injured by fall of roof while shoveling coal at face of pillar.
12	John Kortess, .....	Slavonian, ..	Miner, .....	45	M.	1	3	Sterrick Creek,	Fatally injured by fall of roof while mining out a shot in mining bench in pillar.
16	Ignatz Mekutha, .....	Polish, .....	Laborer, .....	24	S.	...	....	Olyphant, .....	Fatally injured by falling from a ladder on which he was standing and striking his head against floor of engine room at breaker. He was helping to repair a steam pipe. Outside.
June 7	John Marchak, .....	Polish, .....	Laborer, .....	47	M.	1	4	Olyphant, ....	Fatally injured by fall of roof near face of pillar while cleaning a place for a prop.
15	John Rebruckin, .....	Polish, .....	Laborer, .....	52	M.	1	1	Coal Brook, ..	Fatally injured by fall of roof while standing on the middle of the track taking down a car. After his car had been taken out, the pillar section along heading road.
	Frank Weisnopskie, ..	Polish, .....	Miner, .....	34	M.	1	4	Tappans, .....	Fatally injured by fall of roof along heading road. The mine foreman told him to come back 500 feet further from the face of the heading in order to secure or take this piece down, and while he was explaining what was to be done the piece fell.
	John Gorchulsky, ....	Polish, .....	Laborer, .....	36	M.	1	6	Olyphant, ....	Fatally injured by fall of roof while preparing to load a car at face of chamber.

Lackawanna

TABLE 4.—Continued

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident In Brief
June 25	Santa Suttinla, .....	Italian, .....	Laborer, .....	22	S.	....	....	Raymond, .....		Fatally injured by fall of roof 40 feet back from chamber pillar that was being taken out. He was standing under the piece when it fell, talking with the miner and laborer.
July 9	Marc Merino, .....	Russian, ..	Miner, .....	42	M.	1	7	Olyphant, .....		Fatally injured by fall of roof at face of heading. He had fired a blast and had returned to the face, and while sitting on a piece of coal a piece of roof fell.
Aug. 11	Samuel Fabiano, .....	Italian, .....	Miner, .....	34	M.	1	4	Olyphant, .....		Fatally injured by fall of coal at face of pillar while mining out a shot.
18	Angelo Serlanni, .....	American, ..	Brakeman, ..	18	S.	....	....	Coal Brook, ...		Fatally injured by mine cars pushed by a third car from the front end as the trip mine locomotive. He was riding in the car and was pushed from the breaker to the mine. The first four cars jumped off the track and in some manner he was fatally injured.
Sept. 7	Stephen Komanicky, ...	American, ..	Slatepicker, ...	15	S.	....	....	Olyphant, .....	Lackawanna	Fatally injured by a scraper line in breaker. It was quitting time and he was taking a short cut, going under the railing of scraper line, when he was caught by the moving scrapers. Died a few days later. Outside.
9	Reese Charles, .....	Welsh, .....	Engineer, .....	48	M.	1	3	Olyphant, .....		Fatally injured in compressor room. He was taking a discharge cap off the compressor and forgot to close the main valve that controlled the total air pressure. When he had the cap nearly off the excessive pressure broke the cap and the remaining fragments struck him against the brick wall of the building. Outside.
16	Michael Karcaine, ...	Austrian, ..	Miner, .....	28	M.	1	3	Olyphant, .....		Fatally injured by fall of roof at face of chamber while shoveling coal back to the laborer.

Sept. 20	Richard Burke, .....	American, ..	Driver, .....	17	S.	....	....	Tappans, .....	Fatally injured by being squeezed between side of loaded car and upper side of heading. On this date he was riding on the rear end of loaded trips in order to give light to the driver in case his lamp became extinguished. He tried to run ahead of the trip, but was unable to do so, and being pulled by two mules, when he was caught.
Oct. 19	James Fitzpatrick, ...	American, ..	Driver, .....	19	S.	....	....	Tappans, .....	Fatally scalded. While pulling a trip of empty cars in the heading from foot of slope it was necessary to pass over one side of shaft foot, both cages always being left at foot, no coal being hoisted in shaft. Some repairs were being made on one side of foot. The workmen signaled the engineer to pull the cage up to see if their work had been done right and then they started the pump house for a few minutes. When the driver came along, not knowing the cage had been removed, he walked into the sump.
	Vincent Ward, .....	American, ..	Brakeman, ....	17	S.	....	....	Coal Brook, ...	Fatally injured by cars on heading road. He was riding on rear end of electric motor that was pulling three loaded cars and in some unknown manner he fell under trip.
Nov 13	Joseph Pettenot, .....	Italian, .....	Doorman, .....	61	M.	1	....	Coal Brook, ...	Fatally injured. A trip of two loaded cars pushed by a motor caught him against the door that he was tending on main road.
	William Evans, .....	Welsh, .....	Runner, .....	18	S.	....	....	Raymond, .....	Fatally injured by a kick from a mule in heading, and he was killed. He was riding with a team of mules that were backing with a trip of empty cars, when the mule kicked him.
	Joseph Blods, .....	Polish, .....	Laborer, .....	62	M.	1	....	Olyphant, .....	Fatally injured by fall of roof near face of chamber while loading car of coal.
19	Joseph McAnvic, .....	American, ..	Laborer, .....	28	M	1	1	Gravity Slope.	Fatally injured by fall of roof near face of chamber while loading car of coal in the morning before the miner had examined the chamber. The chamber should have been secured with collars at least a couple of days prior to this date.
23	Israel Parsons, .....	English, ...	Miner, .....	45	M.	1	1	Coal Brook, ...	Fatally injured by fall of roof near face of chamber while loading car of coal. The fall struck him on the collar, and he was killed. He was riding on the collar, and he was killed. There should have been two collars supporting the piece.
Dec. 1	Paul Hoblinski, .....	Austrian, ..	Miner, .....	49	M.	1	7	Erie, .....	Fatally injured by flying coals from blast in his chamber. He charged a hole ready to fire and then commenced loading out loose coal at face of chamber, when the charge exploded.

Lackawanna



TABLE 4—Continued

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Dec. 8	John Bojohimny, .....	Polish, .....	Laborer, .....	40	M.	1	2	Coal Brook, ...	Lackawanna	Fatally injured by fall of roof near face of heading. The miner discovered the dangerous piece of roof and told the laborer to step back and he would pull it down but the roof fell before the laborer had time to step back.
14	John Bridget, ... ..	Italian, .....	Laborer, .....	59	M.	....	....	Powderly, ....		Fatally injured by trip of loaded mine cars near head of slope. He was shoveling snow from the track and as the day was stormy he was muffled up around the ears and could not hear the cars coming. Outside.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 1	Charles Oldnovich, ...	Austrian, ...	Laborer, ...	67 M.		Sunnyside, ...		Leg fractured. Struck by a piece of frozen culm that rolled down into the bank while shoveling culm in conveyor line. Outside.
9	Dem Felachyck, ...	Polish, ...	Laborer, ...	30 M.		Powderly, ...		Leg fractured. Struck by a piece of coal that burst off pillar while loading car at face of pillar.
12	Thomas Finan, ...	American, ...	Miner, ...	45 M.		Coal Brook, ...		Arm fractured by a piece of roof falling on him at face of chamber.
19	Dom. Loucheni, ...	Italian, ...	Driver, ...	19 S.		Riverside, ...		Leg fractured by falling under loaded mine cars along heading road. He slipped on the rail.
22	Theodore Botnes, ...	Russian, ...	Miner, ...	30 M.		Powderly, ...		Leg fractured by a piece of top coal falling on him while barring loose coal at face of chamber.
25	John Dalton, ...	American, ...	Miner, ...	41 S.		Coal Brook, ...		Leg and one rib fractured by fall of roof at face of chamber while drilling a hole.
27	Casper Wagner, ...	American, ...	Miner, ...	29 S.		Coal Brook, ...	Lackawanna	Arm fractured, thumb cut off and hands, head and face lacerated by blast in chamber. He thought the fuse was extinguished and returned to relight it, when the charge exploded.
28	Edward Dempsey, ...	American, ...	Miner, ...	52 M.		Coal Brook, ...		Leg fractured and back bruised by fall of roof at face of chamber while shoveling coal.
	John Pienyar, ...	Folish, ...	Miner, ...	21 S.		Tappans, ...		Hip fractured by fall of roof close against face of chamber.
Feb. 5	Joseph Serianna, ...	Italian, ...	Brakeman, ...	17 S.		Coal Brook, ...		Two fingers cut off and hand lacerated. Hand was caught by wheel of motor while holding a latch on heading road.
9	Michael Kazup, ...	Russian, ...	Laborer, ...	30 M.		Coal Brook, ...		Thigh fractured and back bruised by fall of roof at face of chamber while shoveling coal to car.
	Minor Vannort, ...	German, ...	Miner, ...	50 M.		West Mountain, ...		Back injured by fall of roof in cross-cut. He was driving from his chamber through the pillar.

TABLE 5.—Continued

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Feb. 10	Joseph Davey, .....	American, ..	Runner, .....	21	S.	Jermyn, .....	Lackawanna	Injured about the stomach by mine car while helping to place it on track along heading road.
11	Dominick Gravine, ..	Italian, .....	Laborer, .....	54	M.	Gravity Slope, .....		Big toe fractured by an iron bar falling on it in face of chamber.
	Nicholas Sealgo, .....	Italian, .....	Headman, .....	39	S.	Powderly, .....		Arm fractured and back bruised by falling mine car while unhooking the rope from end of cars on the head of slope. Outside.
13	William Howells, ....	Welsh, .....	Miner, .....	39	M.	Tappans, .....		Seriously injured about the face, eyes and hands by a blast in rock. The hole had missed firing twice, and he was returning the third time when the powder exploded.
19	Benjamin Harris, ...	American, ..	Laborer, .....	53	M.	Olyphant, .....		Leg mangled by being struck by a locomotive when he stepped on track after a loaded trip had passed by. Outside.
24	Peter Rose, .....	Italian, .....	Laborer, .....	38	M.	Olyphant, .....		Two fingers cut off by being caught between a rope and pulley used for pulling the car to face of airway. He thought the rope was slipping off the pulley and took hold of it.
March 2	Carl R. Shaffer, .....	American, ..	Driver, .....	23	M.	Powderly, .....		Ankles severely bruised. While attempting to get on wagon the team started and he was thrown under the wheels. Outside.
6	Anthony Saladonisl, ..	Russian, ...	Miner, .....	30	M.	Powderly, .....		Arm and two ribs fractured by fall of roof while tamping a charge at face of chamber.
9	Vito Cerro, .....	American, ..	Slatepicker, .....	15	S.	Coal Brook, .....		Wrist fractured by falling across a chute in breaker. Outside.
23	John B. Valase, .....	Italian, .....	Miner, .....	54	M.	Riverside, .....		Arm fractured by a piece of roof falling on him while standing prop in face of chamber.

March 24	Chas. Radicz, .....	Russian, ...	Laboret, .....	30	M.	Powderly, .....	Leg fractured by fall of roof at face of chamber while loading car of coal.
27	Frank Arthur, .....	American, ..	Miner, .....	38	M.	Coal Brook, .....	Three ribs fractured by fall of roof at face of chamber while sounding the same.
April 10	John Stefanovich, ....	Slavonian, ...	Laborer, .....	30	M.	Coal Brook, .....	Two bones in hand broken by piece of rock falling on him at face of chamber.
12	Lester Harrison, .....	American, ...	Doorboy, .....	16	S.	Gravity Slope, .....	Leg fractured by fall of roof at face of chamber, and had it earthed when the trip struck the door and knocked him down.
19	Patrick Powers, .....	American, ...	Driver, .....	19	S.	Jermyn, .....	Leg fractured. While riding between two empty cars along heading road, one of them ran off the track, and the other bumped against his leg.
22	Mike Beallico, .....	Greek, .....	Miner, .....	47	M.	Sterrick Creek, .....	Seriously injured about the body by fall of roof at face of pillar while drilling hole.
27	Michael Jordan, .....	American, ...	Miner, .....	47	M.	Coal Brook, .....	Knee cap fractured by falling off mine car on which he was riding along haulage road.
May 7	John Nelson, .....	American, ...	Brakeman, .....	24	S.	Powderly, .....	Compound fracture of finger. While coupling a truck to a mine car his hand was caught and squeezed. Outside.
8	Christopher Murray, ..	American, ...	Miner, .....	47	M.	Coal Brook, .....	Injured internally by fall of coal at face of chamber while mining out a shot with a pick.
10	{ Carl Hoffman, .....	German, ....	Miner, .....	32	M.	} Gravity Slope, .....	{ Hands and leg burned by blasting powder. While they were pushing the charge into a hole in the bottom rock it was ignited in some unknown manner.
	{ Dominick Faone, ...	Italian, ....	Laborer, .....	23	S.		{ Legs fractured by mine car on heading road. He was walking to his place of work when a mine car ran away from a chamber and struck him.
	Michael Freast, .....	Italian, .....	Miner, .....	29	M.	Coal Brook, .....	Shoulder dislocated. Struck by trip of cars along heading road. He was standing too close to track.
12	Ralph Morasco, .....	Italian, .....	Tracklayer, .....	45	M.	Gravity Slope, .....	Hands severely injured by being caught in the trace hook while hitching mule to trip of cars along heading road.
15	Thomas McManamon, ...	American, ...	Driver, .....	18	S.	Powderly, .....	Leg fractured by fall of roof at face of chamber.
29	Simon Shilgol, .....	Russian, ...	Miner, .....	27	S.	Olyphant, .....	Ruptured while lifting a sprag from wheel of loaded car.
June 7	Joseph A. Mackrell, ...	American, ...	Runner, .....	19	S.	Olyphant, .....	Leg fractured by trip of loaded cars one of which struck and fractured his ribs.
8	Dominick Rotell, .....	Italian, .....	Miner, .....	24	S.	Gravity Slope, .....	Ribs fractured and back injured by fall of roof at face of chamber.
10	Metro Barlichok, .....	Austrian, ...	Laborer, .....	38	M.	Olyphant, .....	Two teeth knocked out and face injured by being kicked by a mule. He was walking behind the mule along heading road.
	Geo. Wilk, .....	American, ...	Driver, .....	19	S.	Coal Brook, .....	Hand bruised by mine car while moving a latch on heading road.
11	Peter Fodoszak, .....	American, ...	Runner, .....	22	M.	Jermyn, .....	Back injured by falling off ladder in chamber.
14	Walter Scott, .....	American, ...	Laborer, .....	20	S.	Powderly, .....	

Lickawanna

TABLE 5.—Continued

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
June 13	John Woodrick, .....	Austrian, ..	Laborer, .....	38	M.	Olyphant, .....	Lackawanna	Leg fractured and otherwise injured by flying coals from blast in face of chamber.
27	Felix Leo, .....	American, ..	Brakeman, ..	19	S.	Powderly, .....		Hand badly injured by mine car while trying to close a latch on heading road.
	Kenneth Swift, .....	American, ..	Driver, .....	17	S.	Gravity Slope, .....		Hand badly bruised by mine car catching him against block in chamber while blocking car.
25	John Bicko, .....	Slavonian, ..	Laborer, .....	44	M.	Gravity Slope, .....		Body bruised by falling off lumber car and striking another car on railroad.
	Stanley Broda, .....	Polish, .....	Laborer, .....	29	M.	Olyphant, .....		Index finger cut off and hand injured. Hand was caught by wheels while pulling blocks loose from under car at face of chamber.
July 1	William Haspamewieski, .....	Lithuanian, ..	Laborer, .....	29	S.	Coal Brook, .....		Leg fractured by a piece of coal falling on him while barring loose coal at face of chamber.
3	Laddie Perkoste, ....	Polish, .....	Laborer, .....	24	M.	Coal Brook, .....		Leg fractured by fall of roof while loading car at face of pillar.
8	William Reese, .....	American, ..	Brakeman, ..	18	S.	Olyphant, .....		Hips and arms injured. Caught between motor and car of sand along heading road. The car of sand jumped off the track.
	George Siebodnik, ....	American, ..	Doorboy, .....	16	S.	Jernyn, .....		Legs fractured by being caught between empty car and pillar. He had forgotten to turn the latch for the car. The car ran in a motor pushing a trip of empty cars run in on the chamber track against another motor and caught him.
13	Thomas Sidons, .....	American, ..	Laborer, .....	31	M.	Gravity Slope, .....		Big toe fractured by a piece of coal falling on him while loading car at face of chamber.
16	John McFadden, .....	American, ..	Miner, .....	30	S.	Coal Brook, .....		Foot badly crushed between mine cars on which he was riding on his way home. The trip of cars bumped suddenly. Out-side.
17	William Kolish, ....	Polish, .....	Laborer, .....	21	S.	Gravity Slope, .....		End of finger cut off while spragging mine car in chamber.



Aug.	6	Latsco Chipluski, ..	Polish, .....	Miner, .....	45	M.	Raymond, .....	Injured by fall of roof at face of pillar. He returned to the face after firing a shot when the piece fell on him. Three fingers cut off first joint while helping to replace mine locomotive on the track.
	9	Barney Provehck, ....	Polish, .....	Laborer, .....	21	S.	Coal Brook, .....	
	13	Frank Gabriel, .....	American, .....	Driver, .....	18	S.	Coal Brook, .....	Leg fractured by falling off a mule's back while taking it to the locomotive shop. Trip of car along heading road it fell on his toe.
	27	Patrick Powers, .....	American, .....	Driver, .....	19	S.	Jernyn, .....	Forefinger severed at first joint by a mine car while lifting it on the track along main road.
	31	Martin Raznos, .....	Polish, .....	Laborer, .....	27	M.	Gravity Slope, .....	Ankle dislocated by being thrown from a trip of mine cars on main road.
Sept.	8	Frank King, .....	American, .....	Engineer, .....	24	M.	Coal Brook, .....	Pelvis contused. He was driving a mule and when he was about to hitch it to a car on heading road, the mule kicked him.
	14	Frank Bergen, .....	American, .....	Laborer, .....	21	M.	Olyphant, .....	Leg fractured above knee. He was engaged in a trip of empty cars into the heading when the rear car jumped off the track and Davis was running alongside of this car intending to call the motorman's attention to it when the car swung over and caught him against a concrete wall.
	17	David J. Davis, .....	Welsh, .....	Laborer, .....	32	M.	Olyphant, .....	Face lacerated by being kicked by a mule along heading road.
		Clifford Fallon, .....	American, .....	Driver, .....	17	S.	Powderly, .....	Foot crushed by mine car in chamber. He removed the block from under the wheel and the car started and jumped off the track.
		Walter Bryll, .....	Polish, .....	Laborer, .....	23	M.	Coal Brook, .....	Spinal bone in leg fractured. Caught between bumpers of loaded cars while trying to couple them while in motion along heading road.
Oct.	23	Edward Shallock, ....	American, .....	Driver, .....	17	S.	Jernyn, .....	Injured internally by a screen jacket falling against him while screening sand near foot of shaft.
	14	Thomas Williams, ...	Welsh, .....	Company man, ...	33	S.	Olyphant, .....	Back badly bruised by being struck by a rope and thrown against a large stone near tip where the cars were unloaded.
	16	Edward Coleman, ....	American, .....	Laborer, .....	63	M.	Gravity Slope, .....	Outside.
	19	J. P. Hollister, .....	American, .....	Foreman, .....	58	M.	Olyphant, .....	Leg broken below the knee. While crossing the broken down trip of loaded mine locomotive bumped the rear end of trip and his leg was caught between cars.
	22	Frank Long, .....	Italian, .....	Miner, .....	47	M.	Gravity Slope, .....	Knee cap fractured. While assisting to replace a loaded car on track that was derailed in his chamber, the lever broke and he was thrown to the ground.

Lackawanna

TABLE 5.—Continued

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Nov. 8	John Stilko, .....	Lithuanian,	Runner, .....	19	S.	Olyphant, .....	Lackawanna	Hand badly lacerated and some bones broken. He was about to un hitch mule from a trip of loaded cars on heading road when his light was extinguished. He tumbled and fell and his hand was caught in the wheel.
18	Baldo Cardoni, .....	Italian, .....	Miner, .....	32	M.	Sterrick Creek, .....		Shoulder injured and three ribs fractured by fall of roof at face of working place.
19	Frank Boots, .....	American, ..	Driver, .....	18	S.	Powderly, .....		Legs fractured below the knee and head of body bruised. While riding on front end of trip of loaded cars he fell between them.
24	Andrew Domenico, ...	Italian, .....	Laborer, .....	26	M.	Riverside, .....		Leg fractured below the knee. The head-man neglected to hitch the rope to a trip of two empty cars which run down the slope and caught Domenico, who was standing on slope road.
Dec. 1	Lewis Peduto, .....	Italian, .....	Miner, .....	32	M.	Coal Brook, .....		Leg fractured and face lacerated by fall of roof at face of chamber while barring
2	William Rosler, .....	American, ..	Driver, .....	20	S.	Coal Brook, .....		Legs injured by being thrown from a mule's back while taking it to the barn. Outside.
7	James H. Baker, .....	American, ..	Driver, .....	19	S.	Coal Brook, .....		Index finger cut off by being caught between wheels of car that he was spragging.
11	Major Heath, .....	English, ...	Miner, .....	47	M.	Coal Brook, .....		Head and back badly bruised by fall of roof at face of chamber. Immediately after firing a blast he returned to the face, when the roof fell.
21	William Bell, .....	English, ...	Miner, .....	63	M.	Olyphant, .....		Leg fractured and arm injured by being struck by flying coals from a blast in chamber. After lighting the squib he had retreated only five or six feet when the roof came down.
22	Michael Rosone, .....	Russian, ...	Laborer, .....	33	M.	Powderly, .....		Compound fracture of leg. While repairing track along heading road a pulley came loose and the haulage rope struck him.

## CONDITION OF COLLIERIES

## DELAWARE AND HUDSON COMPANY

Olyphant and Coal Brook Collieries.—Ventilation, roads, drainage and condition as to safety, good.

Gravity Slope and Jermyn Collieries.—Ventilation, roads and drainage, fair. Condition as to safety, good.

Powderly Colliery.—Ventilation, roads and condition as to safety, good. Drainage, fair.

## TEMPLE COAL COMPANY

Sterrick Creek Colliery.—Ventilation, roads, drainage and condition as to safety, good.

## SCRANTON COAL COMPANY

Raymond Colliery.—Ventilation, roads and drainage, fair. Condition as to safety, good.

Riverside Colliery.—Ventilation, roads and drainage, fair. Condition as to safety, good.

## HILLSIDE COAL AND IRON COMPANY

Erie Colliery.—Ventilation, roads and drainage, fair. Condition as to safety, good.

## ARCHBALD COAL COMPANY

Tappans Colliery.—Ventilation, roads and drainage, fair. Condition as to safety, good.

## WEST MOUNTAIN COAL COMPANY

West Mountain Colliery.—Ventilation, roads, drainage and condition as to safety, good.

## HUMBERT COAL COMPANY

Sunnyside Colliery.—Ventilation, roads, drainage and condition as to safety, fair.

## SACANDAGA COAL COMPANY

Sacandaga No. 3 Colliery.—Ventilation, roads, drainage and condition as to safety, fair.

## FALL BROOK COAL COMPANY

Murrin's Colliery.—Ventilation, roads, drainage and condition as to safety, fair.

## IMPROVEMENTS

## HUDSON COAL COMPANY

Olyphant Colliery.—Outside: One Duplex 20 by 36 inch slush pump was installed for pumping culm into mines. Installed one 14 by 20 inch Flory second motion hoisting engine on surface, No.

14 plane, New County vein, Grassy Island No. 2 shaft. Installed one 18 by 36 inch Dickson first motion hoisting engine on surface, Dunmore vein, No. 4 plane, Grassy Island No. 2 shaft.

Coal Brook Colliery.—Outside: Changed main and steamboat rolls to slow-gearred rolls. Installed in the power plant a 1600 KVA 2300 volt, 25-cycle, 3-phase, G. E. generator, with a 28 by 44 by 42 Hamilton-Corliss compound non-condensing engine, and one 600 KW G. E. frequency changer, changing 25 cycle to 60 cycle, 2300 volts, 3-phase.

Powderly Colliery.—Outside: Installed 6 Wilmot jigs in the east end of the breaker. Equipped each of the six boilers in boiler plant with Coppus blowers.

Jermyn Colliery.—Outside: Boiler plant was enlarged by the installation of 926 HP B. and W. Stirling boilers. An electric hoist was installed No. 8 plane, 730 HP, 250 volt, direct current. Also installed one 250 G. E. Co. 250 KW, 250 volt D. C. belt driven generator, and a 22 by 22 McEwen engine in power house. Installed one Joplin jig in washery.

#### SCRANTON COAL COMPANY

Raymond Colliery.—Two 300 horse power boilers were installed.

#### HILLSIDE COAL AND IRON COMPANY

Erie Colliery.—A rock tunnel, 7 feet by 12 feet and 400 feet in length, was driven from the Clark vein to the New County vein, to facilitate inside transportation. Many of the motor roads have been regraded.

#### ARCHBALD COAL COMPANY

Tappans Colliery.—No. 2 New County slope has been extended a distance of 2500 feet on a gradient of 7 degrees, and two rock slopes were driven from this slope a distance of 300 feet, each, to reach the coal in the Dunmore veins on the Archbald anticlinal. A new slope has been started in the Dunmore vein and is now down a distance of 200 feet on a gradient of 4 degrees.

#### MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen, was held in Watt's Hall, Carbondale, May 18 and 19. The Board of Examiners was composed of P. J. Moore, Mine Inspector, Carbondale; Richard Beer, Engineer, Carbondale; John F. Boland, Miner, Carbondale; David Evans, Miner, Olyphant.

The following persons passed a satisfactory examination and were granted certificates:

#### MINE FOREMEN

Frank J. Hevers, John J. Ford, Patrick J. O'Rourke, Michael F. Brennan, Martin F. Murphy, Archbald; William Loftus, Olyphant; Thomas H. Williams, Carbondale; Patrick J. Murray, Peckville; Martin J. Loftus, Jessup.

## ASSISTANT MINE FOREMEN

Edward C. McLaughlin, Thomas A. Jordan, James Walsh, Griff I. Evans, Olyphant; William J. Williams, Blakely; William J. Rodway, James T. Stevens, Peckville; Arthur Wrightson, Mayfield; James Coughlin, Archbald.





## SECOND DISTRICT

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### LACKAWANNA COUNTY

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Scranton, Pa., March 1, 1916.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my report as Inspector of Mines for the Second Anthracite District, for the year ending December 31, 1915, as required by the Act of April 14, 1903.

Respectfully submitted,

L. M. EVANS,  
Inspector

## SUMMARY OF STATISTICS

Number of collieries, .....	12
Number of mines, .....	26
Number of mines in operation, .....	21
Number of tons of coal shipped to market, .....	3,465,648
Number of tons used at mines for steam and heat, .....	421,554
Number of tons sold to local trade and used by employes, .....	92,597
Number of tons produced, .....	3,979,799
Number of tons produced by compressed air machines, .....	.....
Number of tons produced by electrical machines, ....	.....
Number of persons employed inside of mines, .....	7,422
Number of persons employed outside, .....	1,745
Number of fatal accidents inside of mines, .....	29
Number of fatal accidents outside, .....	4
Number of non-fatal accidents inside of mines, .....	58
Number of non-fatal accidents outside, .....	1
Number of tons of coal produced per fatal accident inside, .....	137,234
Number of tons produced per fatal accident outside,...	994,950
Number of tons produced per fatal accident inside and outside, .....	120,600
Number of persons employed per fatal accident inside,.	256
Number of persons employed per fatal accident outside, .....	437
Number of persons employed per fatal accident inside and outside, .....	278
Number of persons employed per non-fatal accident inside, .....	128
Number of persons employed per non-fatal accident outside, .....	1,745
Number of persons employed per non-fatal accident inside and outside, .....	155
Number of wives made widows, .....	23
Number of children made orphans, .....	56
Number of steam locomotives used inside of mines, ....	.....
Number of steam locomotives used outside, .....	14
Number of compressed air locomotives used inside, ....	35
Number of compressed air locomotives used outside, ....	.....
Number of electric motors used inside, .....	54
Number of electric motors used outside, .....	.....
Number of gasoline locomotives used inside, .....	.....
Number of fans in use, .....	26
Number of furnaces in use, .....	.....
Number of gaseous mines in operation, .....	22
Number of non-gaseous mines in operation, .....	4
Number of new mines opened, .....	2
Number of old mines abandoned, .....	.....

TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
Delaware and Hudson Company, .....	2,135,473
Delaware, Lackawanna and Western Railroad Com- pany, .....	1,305,188
Scranton Coal Company, .....	454,393
Bulls Head Coal Company, .....	61,546
Clearview Coal Company, .....	23,199
Total, .....	<u>3,979,799</u>

## Production by Counties

Lackawanna, .....	<u>3,979,799</u>
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TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Delaware and Hudson Co., .....	16	2	18	31	.....	31	133,467	68,886	3,545	921	4,466	222	462	114	.....
Delaware, Lackawanna and Western Rail- road Co., .....	5	2	7	13	1	14	261,037	100,399	2,747	435	3,182	549	218	211	435
Scranton Coal Co., .....	7	.....	7	10	.....	10	64,913	45,439	886	328	1,224	128	.....	90	.....
Bulls Head Coal Co., .....	.....	.....	.....	2	.....	2	30,773	30,773	136	35	171	.....	.....	68	.....
Clearview Coal Co., .....	1	.....	1	2	.....	2	23,199	11,599	98	26	124	98	.....	49	.....
Totals and averages, .....	29	4	33	58	1	59	137,234	68,617	7,422	1,745	9,167	256	437	128	1,745



TABLE C.—Causes of Fatal Accidents Inside and Outside of Mines

	Months												Totals	Percentages
	January	February	March	April	May	June	July	August	September	October	November	December		
Inside														
Falls of roof, .....	2	....	....	3	4	....	1	1	2	1	2	....	16	55.17
Mine cars, .....	1	....	....	1	....	1	....	1	....	1	....	....	5	17.24
Blasts, premature and otherwise, .....	....	2	....	....	2	....	....	....	1	....	1	....	6	20.69
Falling into shafts, .....	....	....	1	....	....	....	....	....	....	....	....	....	1	3.45
Electricity, .....	....	....	....	1	....	....	....	....	....	....	....	....	1	3.45
Totals, .....	3	2	1	5	6	1	1	2	3	2	3	....	29	100.00
Outside														
Cars, .....	....	....	1	1	....	....	....	....	....	....	....	....	2	50.00
Machinery, .....	....	1	....	....	....	....	....	....	....	....	1	....	2	50.00
Totals, .....	....	1	1	1	....	....	....	....	....	....	1	....	4	100.00
Grand totals inside and outside, .....	3	3	2	6	6	1	1	2	3	2	4	....	33	.....

TABLE D.—Causes of Non-Fatal Accidents Inside and Outside of Mines

	Months												Totals	Percentages
	January	February	March	April	May	June	July	August	September	October	November	December		
Inside														
Falls of roof, .....	1	....	1	1	2	4	2	2	1	1	1	1	17	29.31
Mine cars, .....	2	4	....	1	....	1	1	2	1	4	....	2	20	34.49
Explosions of gas, .....	....	....	1	....	....	2	1	....	1	....	....	....	5	8.62
Explosions of powder and dynamite, .....	....	....	1	....	....	....	....	....	....	....	....	....	1	1.72
Blasts, premature and otherwise, .....	....	1	....	....	2	1	1	....	....	....	....	....	6	10.35
Struck by rock, .....	....	....	....	....	....	....	....	....	....	1	....	....	1	1.72
Mules, .....	....	1	....	....	....	....	....	....	....	....	....	....	1	1.72
Falling, .....	1	....	....	....	....	1	....	....	....	....	1	....	3	5.17
Struck by rope, .....	....	....	....	....	....	1	1	....	....	....	....	....	2	3.45
Struck by axe, .....	....	....	....	....	....	1	....	....	1	....	....	....	2	3.45
Totals, .....	4	6	3	2	5	11	6	4	4	6	4	3	58	100.00
Outside														
Struck by casting, ....	....	....	....	....	....	1	....	....	....	....	....	....	1	100.00
Totals, .....	....	....	....	....	....	1	....	....	....	....	....	....	1	100.00
Grand totals inside and outside, .....	4	6	3	2	5	12	6	4	4	6	4	3	59	.....

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	— Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
Inside													
Miners, .....	2	1	....	1	4	....	....	1	2	1	....	....	12
Miners' laborers, .....	1	1	....	4	2	1	1	....	1	....	2	....	13
Doorboys and helpers, .....	....	....	....	....	....	....	....	1	....	1	....	....	1
Company men, .....	....	....	....	....	....	....	....	1	....	....	1	....	2
Footmen, .....	....	....	1	....	....	....	....	....	....	....	....	....	1
Totals, .....	3	2	1	5	6	1	1	2	3	2	3	....	29
Outside													
Engineers and firemen, .....	....	....	....	....	....	....	....	....	....	....	1	....	1
Slatepickers (men), .....	....	1	....	....	....	....	....	....	....	....	....	....	1
Laborers, .....	....	....	1	....	....	....	....	....	....	....	....	....	1
Miners, .....	....	....	....	1	....	....	....	....	....	....	....	....	1
Totals, .....	....	1	1	1	....	....	....	....	....	....	1	....	4
Grand totals inside and outside, .....	3	3	2	6	6	1	1	2	2	2	4	....	33

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
Inside													
Assistant mine foremen, .....	.....	.....	.....	1	4	7	1	.....	1	.....	.....	.....	2
Miners, .....	.....	2	2	.....	.....	.....	3	.....	1	2	1	1	26
Miners' laborers, .....	3	1	1	1	1	2	.....	.....	1	1	1	.....	12
Drivers and runners, .....	.....	3	.....	.....	.....	.....	.....	.....	1	1	1	1	12
Doorboys and helpers, .....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	2
Company men, .....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Brakemen, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....
Footmen, .....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
Totals, .....	4	6	3	2	5	11	6	4	4	6	4	3	55
Outside													
Footmen, .....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
Totals, .....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
Grand totals inside and outside, .....	4	6	3	2	5	12	6	4	4	6	4	3	56

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months											
	January	February	March	April	May	June	July	August	September	October	November	Totals
American, .....	...	...	...	...	...	...	...	1	...	1	1	3
English, .....	...	...	...	...	...	1	...	...	1	...	...	2
Polish, .....	3	1	...	4	5	...	...	...	...	1	...	14
Hungarian, .....	...	...	...	...	...	...	...	...	1	...	...	1
Italian, .....	...	...	...	...	...	...	...	...	...	...	1	1
Slavonian, .....	...	1	1	...	...	...	1	...	...	...	1	2
Lithuanian, .....	...	1	...	...	...	...	...	1	1	...	1	7
Russian, .....	...	1	1	...	1	...	...	...	...	...	...	3
Totals, .....	3	3	2	6	6	1	1	2	3	2	4	33

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months											
	January	February	March	April	May	June	July	August	September	October	November	Totals
American, .....	...	1	...	...	1	3	2	1	1	2	...	11
English, .....	...	...	1	...	1	...	1	1	...	...	1	4
Welsh, .....	...	...	1	...	1	...	...	...	1	...	...	3
Irish, .....	...	...	...	1	...	1	1	...	...	...	...	3
Polish, .....	2	1	1	1	1	5	1	1	...	1	1	16
Hungarian, .....	...	...	...	...	...	...	...	...	...	...	...	1
Italian, .....	...	...	...	...	...	1	...	...	...	...	...	1
Lithuanian, .....	2	1	...	...	2	1	1	1	...	2	2	13
Russian, .....	...	1	...	...	...	1	...	...	1	1	...	4
Totals, .....	4	5	3	2	5	12	6	4	4	6	4	59

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Delaware and Hudson Co. Eddy Creek.	Shaft, .....	Gaseous, ..	{ Fan, ..	{ 28 17	{ 8 5	{ 7.75 4.00	{ 65 80	{ 2.50 1.60	{ Guibal, Guibal,	{ Steam, Electricity,	{ 9 5	{ 222,410 103,678	{ 213,850 71,710	{ 238,900 120,410	{ 204 160
Birdseye, .....	Drift, .....	Gaseous, ..	{ Fan, ..	{ 5 5	{ 4 3.3	{ 1.50 2.50	{ 100 100	{ 1.00 1.00	{ Buffalo, Guibal,	{ Steam, Steam,	{ 1 2	{ 24,786 38,000	{ 16,245 32,000	{ 30,266 43,000	{ 38 60
Birdseye, .....	Drift, .....	Non-gas, ..	{ Fan, ..	{ 10 10	{ 3.3 5	{ 6.50 6.50	{ 95 95	{ 2.20 2.20	{ Guibal, Guibal,	{ Steam, Steam,	{ 1 8	{ 38,000 152,950	{ 32,000 130,940	{ 43,000 173,730	{ 60 261
No. 7, .....	Drift, .....	Gaseous, ..	{ Fan, ..	{ 22 22	{ 5 5	{ 7.75 7.00	{ 70 85	{ 2.50 1.90	{ Guibal, Guibal,	{ Steam, Steam,	{ 4 6	{ 68,100 189,300	{ 56,900 171,700	{ 78,890 217,700	{ 201 397
Olyphant, .....	Shaft, .....	Gaseous, ..	{ 3 Fans, ..	{ 28 20 20	{ 8 5 5	{ 7.75 7.00 7.00	{ 70 85 75	{ 2.50 1.90 2.20	{ Guibal, Guibal, Guibal,	{ Steam, Steam, Steam,	{ 2 2 2	{ 14,550 27,800 27,800	{ 10,850 22,750 22,750	{ 20,396 33,600 33,600	{ 15 40 40
Von Storch Colliery:															
Dickson, .....	Shaft, .....	Gaseous, ..	{ Fan, ..	{ 28 20 20	{ 8 5 5	{ 7.75 7.00 7.00	{ 66 66 76	{ 1.50 1.50 1.50	{ Guibal, Guibal, Guibal,	{ Steam, Steam, Steam,	{ 5 6 3	{ 174,040 205,300 89,000	{ 164,900 192,700 83,100	{ 186,900 220,800 95,500	{ 239 273 51
Farker, .....	Shaft, .....	Gaseous, ..	{ Fan, ..	{ 20 20 20	{ 5 5 5	{ 7.00 7.00 7.00	{ 66 66 76	{ 1.50 1.50 1.50	{ Guibal, Guibal, Guibal,	{ Steam, Steam, Steam,	{ 6 6 3	{ 205,300 192,700 89,000	{ 192,700 192,700 83,100	{ 220,800 220,800 95,500	{ 273 273 51
Marvine Colliery:															
No. 2, .....	Shaft, .....	Gaseous, ..	{ Fan, ..	{ 28 20 20	{ 8 5 5	{ 7.75 7.00 7.00	{ 66 66 76	{ 1.50 1.50 1.50	{ Guibal, Guibal, Guibal,	{ Steam, Steam, Steam,	{ 5 6 3	{ 174,040 205,300 89,000	{ 164,900 192,700 83,100	{ 186,900 220,800 95,500	{ 239 273 51
Clark Vein, .....	Slope, ...	Gaseous, ..	{ Fan, ..	{ 20 20 20	{ 5 5 5	{ 7.00 7.00 7.00	{ 66 66 76	{ 1.50 1.50 1.50	{ Guibal, Guibal, Guibal,	{ Steam, Steam, Steam,	{ 6 6 3	{ 205,300 192,700 89,000	{ 192,700 192,700 83,100	{ 220,800 220,800 95,500	{ 273 273 51
Leggett Creek Colliery:															
No. 1, .....	Shaft, .....	Gaseous, ..	{ Fan, ..	{ 20 20 20	{ 5 5 5	{ 6.00 6.00 7.00	{ 60 80 90	{ 1.50 2.60 2.30	{ Guibal, Guibal, Guibal,	{ Steam, Steam, Steam,	{ 6 4 5	{ 101,910 74,750 140,100	{ 95,450 67,270 107,300	{ 109,940 89,130 154,000	{ 240 87 168
No. 2, .....	Shaft, .....	Gaseous, ..	{ Fan, ..	{ 20 20 20	{ 5 5 5	{ 6.00 6.00 7.00	{ 60 80 90	{ 1.50 2.60 2.30	{ Guibal, Guibal, Guibal,	{ Steam, Steam, Steam,	{ 6 4 5	{ 101,910 74,750 140,100	{ 95,450 67,270 107,300	{ 109,940 89,130 154,000	{ 240 87 168
No. 3, .....	Shaft, .....	Gaseous, ..	{ Fan, ..	{ 20 20 20	{ 5 5 5	{ 6.00 6.00 7.00	{ 60 80 90	{ 1.50 2.60 2.30	{ Guibal, Guibal, Guibal,	{ Steam, Steam, Steam,	{ 6 4 5	{ 101,910 74,750 140,100	{ 95,450 67,270 107,300	{ 109,940 89,130 154,000	{ 240 87 168





TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Delaware and Hudson Co. Eddy Creek, ..... Von Storch, ..... Marvine, ..... Leggitts Creek, ..... Washeries: ..... Middletown, ..... Von Storch, ..... Eddy Creek, .....	{ Lackawanna,	E. R. Pettibone, inside, Charles Dorrance, Jr., Outside.	Dorrance, ..... Scranton, .....	Thomas R. Thomas, Inside, Fred Warner, Outside, James W. Boyd, ...	Olyphant, ..... Scranton, ..... Scranton, .....	Delaware and Hudson
Delaware, Lackawanna and Western Railroad Co. Storrs, ..... Cayuga, ..... Brishin, ..... Washeries: ..... Storrs, ..... Cayuga, ..... Brishin, .....	{ Lackawanna,	O. E. Tobey, .....	Scranton, .....	Walter Reese, .....	Scranton, .....	D. L. and W.
Scranton Coal Co. Johnson, ..... Richmond No. 3, ..... West Ridge, .....	{ Lackawanna,	Daniel Young, Sr., ...	Scranton, .....	{ J. J. Aiken, ..... J. J. Aiken, ..... J. F. Cummings, ..	Pittsburg, ..... Pittsburg, ..... Scranton, .....	{ N. Y. O. and W. }
Bulls Head Coal Co. Church, .....	Lackawanna,...	Charles H. Walker, Inside.	Scranton, .....	John J. Law, .....	Scranton, .....	N. Y. O. and W.
Clearview Coal Co. Conklin, .....	Lackawanna,...	William McLaughlin.	Scranton, .....	.....	.....	D. L. and W.

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employees	Total production of coal in tons	Number of days worked	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Delaware and Hudson Co.													
Eddy Creek, .....		685,116	13,086	4	678,206	276	1,410	6	12	776,150	3,696	29,040	97
Van Storch, .....		405,960	35,732	8,794	450,366	255	1,208	7	6	835,830	95,810	100	
Marvine, .....		337,110	23,428	4,595	391,133	267	942	4	7	527,275	83,723	61	
Legitts Creek, .....		289,196	10,356	12,628	282,760	225	808	1	6	481,325	42,169	54	
	Lackawanna,	1,687,322	89,182	25,961	1,802,465	.....	4,368	18	31	2,620,580	225,398	29,040	315
Washeries													
Marvine, .....		114,627	50,822	.....	165,449	278	37	.....	.....	.....	.....	.....	.....
Legitts Creek, .....		87,338	.....	.....	87,338	145	24	.....	.....	.....	.....	.....	.....
Van Storch, .....		61,476	17,206	.....	78,682	*	37	.....	.....	.....	.....	.....	.....
Eddy Creek, .....		.....	1,539	.....	1,539	*	.....	.....	.....	.....	.....	.....	.....
		176,103	156,905	.....	333,008	.....	98	.....	.....	.....	.....	.....	.....
Totals, .....		1,863,435	246,087	25,961	2,135,473	.....	4,466	18	31	2,620,580	225,398	29,040	315
Delaware, Lackawanna and Western Railroad Co.													
Storrs, .....		683,560	45,268	6,474	745,402	239	1,886	6	12	874,575	66,927	104	
Cayuga, .....		179,496	15,236	4,657	199,389	207	551	.....	.....	194,475	74,375	35	
Brisbin, .....		161,303	19,405	7,205	187,913	223	684	1	2	235,825	14,937	39	
	Lackawanna,	1,034,359	80,009	18,336	1,132,704	.....	3,121	7	14	1,304,875	156,239	178	
Washeries													
Brisbin, .....		78,241	.....	.....	78,241	181	28	.....	.....	.....	.....	.....	.....
Storrs, .....		49,216	.....	.....	49,216	65	6	.....	.....	.....	.....	.....	.....
Cayuga, .....		45,027	.....	.....	45,027	171	27	.....	.....	.....	.....	.....	.....
		172,484	.....	.....	172,484	.....	61	.....	.....	.....	.....	.....	.....
Totals, .....		1,206,843	80,009	18,336	1,305,188	.....	3,182	7	14	1,304,875	156,239	178	

\*Included with colliery.



TABLE 2.—Part 2  
Number and kinds of boilers and locomotives in use, number of steam engines, pumps, electric dynamos and air compressors in use, etc.

Names of Operators	County	Number of Boilers				Locomotives				Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors		
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Gasoline	Steam	Air								Electric	
Delaware and Hudson Co., ...	Lackawanna.	.....	.....	61	12,800	12,800	.....	4	35	15	204	12,358	15	25,000	11,650	3	13	
Delaware, Lackawanna and Western Railroad Co., .....		6	750	19	5,150	5,900	.....	7	.....	34	44	7,022	7	11,171	5,066	5	.....	
Seranton Coal Co., .....		.....	.....	28	3,910	3,910	.....	3	.....	3	51	10,226	15	9,395	6,640	6	.....	
Bulls Head Coal Co., .....		.....	.....	1	200	200	.....	.....	.....	.....	6	.....	.....	.....	.....	.....	1	.....
Clearview Coal Co., .....		.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	195	.....	60	45	2	.....
Totals, .....		6	750	109	22,060	22,810	.....	14	35	54	305	29,801	38	45,626	23,391	15	15	

TABLE 3.—Number of each class of employees inside and outside of mines

Names of Operators	County	Inside										Outside										Grand total	
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employees	Total outside		
Delaware and Hudson Co.,	Lackawanna.	5	6	32	1,116	1,192	494	69	21	498	112	3,545	....	10	54	148	78	193	8	430	921	4,466	
Delaware, Lackawanna and Western Railroad Co.,		6	5	32	821	1,092	171	55	13	423	129	2,747	....	4	25	59	105	3	10	229	435	3,182	
Seranton Coal Co.,		4	6	9	280	255	133	25	26	....	153	886	....	3	22	69	54	54	2	124	328	1,224	
Bulls Head Coal Co.,		1	1	1	45	55	17	....	....	15	1	136	....	1	1	4	9	2	2	13	26	124	
Clearview Coal Co.,		2	4	1	18	24	7	....	....	....	31	10	98	....	1	2	3	....	....	1	19	26	124
Totals,		.....	18	22	75	2,280	2,618	827	149	61	967	405	7,422	1	19	107	283	246	252	23	814	1,745	9,167



TABLE 3.—Part 2

Names of Operators	Average Number of Days Worked Monthly											
	January	February	March	April	May	June	July	August	September	October	November	December
Delaware and Hudson Co., .....	21	19	19	21	21	23	22	23	21	20	20	21
Delaware, Lackawanna and Western Railroad Co., ..	15	11	13	24	22	22	11	23	18	18	21	21
Scranton Coal Co., .....	14	10	10	15	11	9	15	10	10	22	21	20
Bulls Head Coal Co., .....	25	24	24	24	24	23	23	22	20	25	23	13
Clearview Coal Co., .....	22	20	5	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lackawanna, ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	251	236	242	244	244	234	234	234	234	234	234	234

TABLE 4.—Fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 9	Walter Chyzlof, .....	Polish, .....	Laborer, .....	26	M.	1	2	Johnson, .....	Lackawanna	Fatally injured by a derailed car on gangway road while on his way home.
21	John Kowlowski, ..	Polish, .....	Miner, .....	55	M.	1	3	Eddy Creek, ..		Fatally injured by fall of bell roof at face of chamber, while mining out a blast.
29	Frank Ranakowski, ..	Polish, .....	Miner, .....	33	M.	1	2	Johnson, .....		Killed by fall of roof at face of chamber while examining a blast.
Feb. 11	Frank Yourski, .....	Russian, ..	Slatepicker, ..	40	M.	1	2	Marvine, .....		Fatally injured by broken machinery while working at face of chamber, outside.
17	John Wassic, .....	Polish, .....	Laborer, .....	25	S.	....	....	Conklin, .....		Killed by blast at working place while stemming a charge with "Atlas."
18	Powell Peteritus, ....	Lithuanian,	Miner, .....	45	M.	1	2	Marvine, .....		Killed by blast near face of chamber while running to safety.
March 9	John Calacan, .....	Slavonian, ..	Laborer, .....	41	M.	1	....	Marvine, .....		Killed by railway cars, while crossing tracks between cars, Outside.
31	Sylvester Jodeck, ....	Russian, ...	Footman, .....	23	S.	....	....	Eddy Creek, ..		Killed by falling into shaft while playing.
April 14	Jacob Rozoko, .....	Polish, .....	Laborer, .....	24	S.	....	....	Johnson, .....		Killed by fall of bell roof at face of chamber, while assisting miner to stand prop under it.
22	John Yabone, .....	Polish, .....	Laborer, .....	22	S.	....	....	Eddy Creek, ..		Killed by electricity on manway. He slipped and grabbed hold of an insulated prop.
24	William Boleski, .....	Polish, .....	Miner, .....	44	M.	1	6	Storrs, .....		Killed by cars. He fell while trying to get out of a car that became derailed. Outside.
25	Joseph Englittis, ....	Lithuanian,	Laborer, .....	50	M.	1	4	Von Storch, ...		Fatally injured by cars on gangway road. He disturbed the wheel block while throwing on the coal.
28	Anthony Sheetus, ....	Lithuanian,	Miner, .....	30	M.	1	3	West Ridge, ..		Killed by fall of bell roof at face of chamber.
30	August Halzman, ....	Polish, .....	Laborer, .....	27	S.	....	....	Storrs, .....		Killed by fall of bell roof at face of chamber.
May 1	John Baconovitch, ....	Russian, ...	Miner, .....	37	M.	1	3	Johnson, .....		Fatally injured by fall of roof at face of chamber while preparing to stand a prop.

May	17	Benjamin Norvich, .. { John Yonblonski, .. Adam Smith, ..	Polish, .....	Laborer, .....	34	S.	....	1	....	4	Storrs, .....	Killed by fall of roof at face of chamber.
	25	Joseph Kergenski, ..	Polish, .....	Miner, .....	38	M.	....	1	....	3	{ Eddy Creek, .. Von Storch, ...	Killed by fall of bell roof at face of chamber while loading a car.
	28	John Shumenski, ..	Polish, .....	Miner, .....	56	M.	....	1	....	2	Storrs, .....	Killed by blast near face of chamber.
	31	John Shumenski, ..	Polish, .....	Miner, .....	56	M.	....	1	....	2	Storrs, .....	Killed by blast on gangway road while lighting a squib.
June	12	Alfred West, .....	English, ..	Laborer, .....	25	S.	....	....	....	....	Von Storch, ...	Fatally injured by falling under cars on plane while mounting a passing trip.
July	7	Michael Kocha, .....	Lithuanian, ..	Laborer, .....	38	S.	....	....	....	....	Von Storch, ...	Fatally injured by fall of bell roof at face of chamber.
Aug.	28	Dominick Galinus, ..	Lithuanian, ..	Miner, .....	31	M.	....	1	....	3	Von Storch, ...	Killed by fall of bell roof at face of chamber.
	31	Reese Esple, .....	American, ..	Company man, ..	28	M.	....	1	....	3	Von Storch, ...	Killed while uncoupling cars in motion, on gangway road.
Sept.	3	Thomas Symonds, ..	English, ..	Miner, .....	56	M.	....	1	....	....	Eddy Creek, ..	Killed by fall of bell roof at face of chamber.
	15	Frank Slutskus, .....	Lithuanian, ..	Laborer, .....	22	S.	....	....	....	....	Marvine, .....	Fatally injured by fall of bell roof at face of chamber.
	20	Stephen Regman, ....	Hungarian, ..	Miner, .....	42	M.	....	1	....	1	Bisblh, .....	Killed by premature blast at face of chamber.
Oct.	14	George Ranick, .....	Polish, .....	Miner, .....	36	M.	....	....	....	4	Storrs, .....	Killed by fall of roof at face of chamber while examining after a blast.
	23	William McKenzie, ..	American, ..	Door-tender, ..	61	M.	....	1	....	....	Von Storch, ...	Fatally injured by derailed car on gangway road.
Nov.	2	Leopold Feren, .....	Italian, .....	Engineer, .....	44	M.	....	1	....	2	Storrs, .....	Killed by machinery. While working around the conveyor line his clothes were caught in a pinion. Outside.
	3	Michael Thompson, ..	American, ..	Laborer, .....	32	M.	....	1	....	3	Legitts Creek, ..	Killed by blast near face of chamber. A squib that has been placed in the hole was lighted.
	5	Peter Jamescheck, ..	Slavonian, ..	Company man, ..	52	M.	....	1	....	....	Johnson, .....	Killed by fall of roof on gangway road while clearing a fall.
	8	Frank Buchunnus, ..	Lithuanian, ..	Laborer, .....	50	M.	....	1	....	4	West Ridge, ..	Killed by fall of bell roof in abandoned workings while working on road.

Lackawanna

TABLE 5.—Non-fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 13	Klatois Deizkus, ....	Lithuanian,	Laborer, .....	22	S.	Marvine, .....	Lackawanna	Skull fractured by derailed car on chamber road.
16	Joseph Garvich, ....	Polish, .....	Driver, .....	20	S.	Johnson, .....		Leg fractured by cars on gangway road while uncompling cars while in motion.
18	Michael Stonks, ....	Lithuanian,	Laborer, .....	40	M.	Von Storch, .....		Leg fractured by fall of roof while walking on gangway road.
25	Joseph Franchick, ..	Polish, .....	Laborer, .....	45	M.	Johnson, .....		Leg fractured by falling from chute platform while lifting a prop.
Feb. 1	Nicholas Lizro, .....	American, ..	Driver, .....	18	S.	Storrs, .....		Leg squeezed by derailed car on chamber road.
6	Andrew Krovack, ..	Russian, ...	Driver, .....	18	S.	Eddy Creek, .....		Skull fractured by a kick from a mule, while hitching it to a car on gangway road.
15	Mone Gardza, .....	Italian, .....	Driver, .....	18	S.	Eddy Creek, .....		Arm fractured by cars on gangway road.
17	George Freof, .....	Polish, .....	Miner, .....	34	M.	Conklin, .....		Seriously injured by blast at working place while he and the laborer were stemming a charge of Atlas powder.
23	Frank Birkus, .....	Lithuanian,	Laborer, .....	20	S.	Richmond No. 3, .....		Leg fractured by derailed car on chamber road.
March 19	Casper Lowe, .....	Italian, .....	Miner, .....	35	M.	Conklin, .....		Body lacerated by cars on gangway road. Face and hands burned by explosion of gas in face of chamber while preparing a blast.
23	Benjamin Davis, ....	Welsh, .....	Miner, .....	44	M.	Storrs, .....	Lackawanna	Leg fractured by fall of roof at face of chamber while mining out a blast.
25	John Dombroski, ....	Polish, .....	Laborer, .....	19	S.	Storrs, .....		Face and hands burned by explosion of powder at face of chamber.
April 12	John Ramigan, .....	Irish, .....	Laborer, .....	55	M.	Von Storch, .....		Leg fractured by cars on gangway road while opening a door.
22	Adam Yashenki, .....	Polish, .....	Miner, .....	24	M.	Eddy Creek, .....		Leg fractured by fall of roof at face of chamber.
May 8	James F. Fadden, ..	American, ..	Miner, .....	43	M.	Eddy Creek, .....		Leg fractured by fall of roof in face of chamber while preparing to blast.
10	Thomas Edwards, ....	Welsh, .....	Miner, .....	47	M.	Eddy Creek, .....		Rib fractured by blast in face of chamber.
17	Adam Yamolinis, ....	Polish, .....	Miner, .....	48	M.	Storrs, .....		Seriously injured by fall of roof at face of working place while loading coal.

May	18	William Ripchus, ....	Lithuanian,	Laborer,	.....	19	M.	Marvane, .....	Skull fractured by blast near face of chamber.
	28	George Sherbin, ....	Lithuanian,	Miner, .....	.....	26	M.	Richmond No. 3, .....	Skull fractured by blast at face of chamber while lighting a squib.
June	5	Andrew Marko, .....	Russian, ...	Laborer, .....	.....	29	M.	Eddy Creek, .....	Hip dislocated by fall of roof at face of chamber.
	9	William J. Blackmore, .....	American, ..	Laborer, .....	.....	36	M.	Marvine, .....	Thigh lacerated by an axe while preparing timber in abandoned workings.
	11	Roger Dora, .....	Polish, .....	Miner, .....	.....	35	M.	Marvine, .....	Arm fractured by falling in face of chamber.
	16	Frank Miscaski, .....	Polish, .....	Footman, .....	.....	30	M.	Storrs, .....	Skull fractured by a car casting that fell from breaker tower where he was working. Outside.
	17	Martin Rudnick, ....	Polish, .....	Miner, .....	.....	55	M.	Storrs, .....	Rib fractured by fall of slip roof at face of chamber.
	18	Michael Pickonite, ..	Italian, ....	Miner, .....	.....	38	M.	Church, .....	Eyes injured by blast near face of chamber.
	22	George Sanders, .....	American, ..	Miner, .....	.....	39	M.	Marvine, .....	Knee dislocated by fall of slip roof at face of chamber.
	23	Patrick McLaughlin, ..	Irish, .....	Company man, ..	.....	58	M.	Legitts Creek, .....	Arm and leg fractured by plane rope while working in abandoned workings.
	35	Lewis Laverinski, ....	Lithuanian,	Miner, .....	.....	36	S.	Von Storch, .....	Foot and hip dislocated by fall of roof at face of chamber.
	26	David G. Thomas, ....	American, ...	Footman, .....	.....	32	M.	Eddy Creek, .....	Three fingers fractured while spragging cars at foot of shaft.
July	8	{ Peter Silver, .....	Polish, .....	Miner, .....	.....	32	M.	{ Johnson, .....	Burned by explosion of gas in face of chamber while loading coal.
		{ Frank Silver, .....	Polish, .....	Miner, .....	.....	38	M.	{ Richmond No. 3, .....	Face and hands burned by explosion of gas at face of chamber while making morning examination.
		{ Harry Haswell, .....	English, ...	Asst. foreman, ..	.....	50	M.		Shoulder dislocated by cars at face of chamber.
	19	William Van Wert, ..	American, ..	Runner, .....	.....	26	M.	Von Storch, .....	Leg fractured by fall of bell roof at face of chamber.
	20	Martin Keleska, .....	Lithuanian,	Miner, .....	.....	43	M.	Johnson, .....	Back contused by fall of bell roof at face of chamber.
	26	John Walsh, .....	Irish, .....	Miner, .....	.....	29	M.	Storrs, .....	Leg fractured by rope on plane.
	27	Lewis M. Thomas, ..	American, ...	Driver, .....	.....	17	S.	Legitts Creek, .....	Two ribs fractured by blast near face of chamber.
		Frank Adamski, .....	Polish, .....	Miner, .....	.....	39	M.	Von Storch, .....	Collar bone fractured by derailed car on chamber road.
Aug.	9	John Drusdack, .....	Polish, .....	Miner, .....	.....	47	S.	Storrs, .....	Leg fractured by derailed car on chamber road.
	19	Daniel Dargis, .....	Lithuanian,	Runner, .....	.....	18	S.	Storrs, .....	Leg fractured by fall of roof on plane road.
	20	Clarence Cooper, ....	American, ..	Runner, .....	.....	23	S.	Johnson, .....	Hand crushed by fall of roof at face of chamber.
	27	William Hill, .....	English, ...	Miner, .....	.....	60	S.	Storrs, .....	Rib fractured by derailed car on chamber road.
Sept.	9	Joseph Tootski, .....	Russian, ...	Runner, .....	.....	21	S.	Eddy Creek, .....	Face and hands burned by explosion of gas in face of heading while making morning examination.
	13	Joseph Morris, .....	Welsh, .....	Asst. foreman, ..	.....	53	M.	Eddy Creek, .....	Rib fractured by fall of roof at face of chamber.
	14	Joseph Petritus, .....	Lithuanian,	Laborer, .....	.....	30	M.	Richmond No. 2, .....	

Lackawanna



TABLE 5. — Continued

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Sept. 15	William Hancock, ....	American, ..	Miner, .....	56	M.	Marvine, .....	Lackawanna	Finger cut off by hand axe while repairing track on chamber road.
Oct. 2	William Datehavage, .....	Polish, .....	Miner, .....	35	M.	Brisbin, .....		Ankle fractured by being caught in some rock in abandoned workings.
12	James Elliot, .....	American, ..	Driver, .....	17	S.	Eddy Creek, .....		Arm fractured by cars on gangway road.
20	Oscar Klein, .....	American, ..	Brakeman, ..	18	S.	Legitts Creek, .....		Leg fractured by cars on gangway road.
22	Michael Petrick, ....	Russian, ...	Laboret, ....	53	M.	Eddy Creek, .....		Head fractured by fall of slab roof at face of chamber.
25	Bernard Maleski, ....	Lithuanian, ..	Door-tender, .....	46	M.	Legitts Creek, .....		Ankle fractured by derailed car on gangway road.
28	Felix Dorthlow, .....	Lithuanian, ..	Miner, .....	32	M.	Legitts Creek, .....		Rib fractured by derailed car near face of chamber.
Nov. 11	John Guadinas, .....	Lithuanian, ..	Laborer, .....	47	M.	Von Storch, .....		Leg fractured by fall of roof in air course.
23	Michael Yanson, .....	Polish, .....	Miner, .....	23	M.	Eddy Creek, .....		Leg fractured by derailed car near face of chamber.
24	John Zombloski, .....	Lithuanian, ..	Runner, .....	18	S.	Legitts Creek, .....		Leg fractured by derailed car on chamber road.
26	John Pringle, .....	English, ...	Door-tender, .....	65	M.	Marvine, .....		Arm fractured by falling while crossing plane track.
Dec. 3	Dominic Pac, .....	Italian, .....	Runner, .....	28	S.	Church, .....		Arm fractured by derailed car on chamber road.
7	Stephen Matice, .....	Hungarian, ..	Brakeman, ..	19	S.	Brisbin, .....		Leg fractured by derailed car on gangway road.
22	Andrew Somenski, ....	Polish, .....	Miner, .....	40	M.	Storrs, .....		Leg fractured by fall of slip roof near face of chamber.

## CONDITION OF COLLIERIES

## DELAWARE AND HUDSON COMPANY

Eddy Creek and Marvine Collieries.—Ventilation, roads, drainage and condition as to safety, good.

Von Storch and Legitts Collieries.—Ventilation, roads and drainage, fair. Condition as to safety, good.

## DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Storrs and Brisbin Collieries.—Ventilation, roads, drainage and condition as to safety, good.

Cayuga Colliery.—Ventilation and condition as to safety, good. Roads and drainage, fair.

## SCRANTON COAL COMPANY

Johnson and Richmond No. 3 Collieries.—Ventilation, roads, drainage and condition as to safety, good.

West Ridge Colliery.—Ventilation, roads and drainage, fair. Condition as to safety, good.

## BULLS HEAD COAL COMPANY

Church Colliery.—Ventilation, roads and drainage, fair. Condition as to safety, good.

## CLEARVIEW COAL COMPANY

Conklin Colliery.—Ventilation, roads and drainage, fair. Condition as to safety, good.

## IMPROVEMENTS

## DELAWARE AND HUDSON COMPANY

Eddy Creek Colliery.—Completed the rock slope through the fault and started tunnel through Smoketown, Diamond vein. Installed a Goodman mining machine in the Dunmore vein. Drove rock slope to Rock and 14 foot veins in Birdseye drift.

Marvine Colliery.—The mouth of No. 1 rock slope was concreted. Rock vein was opened from No. 1 slope and also from No. 9 rock plane.

Von Storch Colliery.—A rock plane 400 feet long was driven from the Clark to the New County vein.

## DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Storrs Colliery.—Built a fireproof machine shop. A bore hole was made for suspending a cable at No. 3 shaft. Built a new washery. A tunnel was driven from top to bottom split of 14 foot vein, at No. 2 shaft. New transmission line from Hampton power plant. One shortwall coal-cutting machine was installed.

Cayuga Colliery.—Installed one 7-ton electric locomotive with reel attachment; also one shortwall coal-cutting machine. Made second opening to New County vein. Installed electric hoist at No. 6 plane, Clark vein.

Brisbin Colliery.—Installed one longwall coal-cutting machine.

#### BULLS HEAD COAL COMPANY

Church Colliery.—Installed one 75-horse power Western Electric mine hoist, one 75 K. W. 112 H. P. motor generator set, and one Morgan-Gardner coal-cutting machine.

#### CLEARVIEW COAL COMPANY

Conklin Colliery.—A hoisting tower was built to cross the D., L. and W. track and load the coal from mine to railroad cars. The coal is taken to the Peoples Coal Company for preparation.

THIRD DISTRICT

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LACKAWANNA COUNTY

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Scranton, Pa., February 20, 1916.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my report as Inspector of Mines for the Third Anthracite District for the year ending December 31, 1915, as required by the Act of April 14, 1903.

Respectfully submitted,

S. J. PHILLIPS,  
Inspector.

## SUMMARY OF STATISTICS

Number of collieries, .....	13
Number of mines, .....	25
Number of mines in operation, .....	25
Number of tons of coal shipped to market, .....	3,089,224
Number of tons used at mines for steam and heat, ....	327,977
Number of tons sold to local trade and used by employes,	57,720
Number of tons produced, .....	3,474,921
Number of tons produced by compressed air machines,..	.....
Number of tons produced by electrical machines, ....	115,000
Number of persons employed inside of mines, .....	5,991
Number of persons employed outside, .....	1,678
Number of fatal accidents inside of mines, .....	24
Number of fatal accidents outside, .....	2
Number of non-fatal accidents inside of mines, .....	52
Number of non-fatal accidents outside, .....	7
Number of tons of coal produced per fatal accident in- side, .....	144,788
Number of tons produced per fatal accident outside, ..	1,737,461
Number of tons produced per fatal accident inside and outside, .....	133,651
Number of persons employed per fatal accident inside,.	250
Number of persons employed per fatal accident outside,	839
Number of persons employed per fatal accident inside and outside, .....	295
Number of persons employed per non-fatal accident in- side, .....	115
Number of persons employed per non-fatal accident out- side, .....	240
Number of persons employed per non-fatal accident in- side and outside, .....	130
Number of wives made widows, .....	16
Number of children made orphans, .....	43
Number of steam locomotives used inside of mines, ....	.....
Number of steam locomotives used outside, .....	5
Number of compressed air locomotives used inside, ....	.....
Number of compressed air locomotives used outside, ..	.....
Number of electric motors used inside, .....	59
Number of electric motors used outside, .....	4
Number of gasoline locomotives used inside, .....	.....
Number of fans in use, .....	20
Number of furnaces in use, .....	1
Number of gaseous mines in operation, .....	11
Number of non-gaseous mines in operation, .....	14
Number of new mines opened, .....	1
Number of old mines abandoned, .....	.....



TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
Pennsylvania Coal Company, .....	1,456,749
Delaware, Lackawanna and Western Railroad Company (Including Hudson Coal Company), .....	585,161
Scranton Coal Company, .....	564,288
Price-Pancoast Coal Company, .....	508,670
Economy Light, Heat and Power Company, .....	101,174
Nay Aug Coal Company, .....	84,692
Spencer Coal Company, .....	72,871
Green Ridge Coal Company, .....	63,352
Carney and Brown Coal Company, .....	28,507
No. 6 Coal Company, .....	9,457
<b>Total, .....</b>	<b>3,474,921</b>

## Production by Counties

Lackawanna, .....	3,474,921
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TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Pennsylvania Coal Co., .....	7	.....	7	11	1	12	298,107	132,432	2,032	677	2,709	290	.....	185	677
Delaware, Lackawanna and Western Railroad Co. (Including Hudson Coal Co.), ..	3	1	4	5	1	6	135,054	117,032	1,299	298	1,537	412	298	248	298
Scranton Coal Co., .....	8	1	9	13	3	16	70,536	43,407	1,078	260	1,338	135	260	91	260
Price-Pancoat Coal Co., .....	1	.....	1	9	1	10	508,670	56,519	1,130	237	1,367	1,130	.....	136	237
Nay Aug Coal Co., .....	1	.....	1	19	1	20	84,692	9,410	167	33	200	467	.....	19	33
Spencer Coal Co., .....	3	.....	3	2	.....	2	24,290	36,436	145	55	200	48	.....	73	.....
Green Ridge Coal Co., .....	1	.....	1	1	.....	1	31,676	31,676	120	62	132	.....	.....	60	.....
N. C. Coal Co., .....	1	.....	1	1	.....	1	9,457	9,457	24	9	33	24	.....	24	.....
Miscellaneous Companies, .....	.....	.....	.....	.....	.....	.....	.....	.....	56	47	103	.....	.....	.....	.....
Totals and averages, .....	24	2	26	52	7	59	144,788	66,824	5,991	1,678	7,669	250	839	115	240

Names of Operators

TABLE C.—Causes of Fatal Accidents Inside and Outside of Mines

	Months												Percentages	
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	
Inside														
Falls of roof, .....	2	1	1	....	1	....	2	....	1	5	1	....	12	50.00
Mine cars, .....	....	....	....	....	....	....	....	....	....	....	....	....	2	8.33
Explosions of gas, .....	....	....	....	....	....	....	....	....	....	....	....	1	1	4.17
Explosions of powder and dynamite, .....	....	....	1	....	....	....	....	....	....	....	....	....	1	4.17
Blasts, premature and otherwise, .....	1	....	....	....	....	....	1	1	....	3	....	....	6	25.00
Falling into shafts, ..	....	....	....	....	....	....	1	....	....	....	....	....	1	4.16
Struck by rock, .....	....	1	....	....	....	....	....	....	....	....	....	....	1	4.17
Totals, .....	3	2	2	....	1	....	4	1	1	8	1	1	24	100.00
Outside														
Cars, .....	....	....	....	....	1	....	....	....	....	....	....	....	1	50.00
Machinery, .....	....	....	1	....	....	....	....	....	....	....	....	....	1	50.00
Totals, .....	....	....	1	....	1	....	....	....	....	....	....	....	2	100.00
Grand totals inside and outside .....	3	2	3	....	2	....	4	1	1	8	1	1	26	.....

TABLE D.—Causes of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Inside														
Falls of coal, .....	....	1	....	....	....	....	....	....	....	2	....	1	3	5.77
Falls of slate, .....	....	2	....	....	....	....	....	....	....	....	....	....	1	1.92
Falls of roof, .....	....	3	....	2	....	1	1	2	1	3	1	4	18	34.62
Nine cars, .....	1	1	....	2	....	....	....	....	....	....	2	3	8	15.38
Explosions of gas, .....	....	....	....	....	....	....	....	....	....	....	....	4	4	7.69
Explosions of powder and dynamite, .....	2	....	....	....	2	1	....	....	1	....	....	....	6	11.54
Blasts, premature and otherwise, .....	....	....	....	2	....	....	....	....	1	1	....	1	5	9.62
Mules, .....	....	....	....	....	1	1	1	....	....	....	....	....	3	5.77
Machinery, .....	....	1	....	1	....	....	....	....	....	....	....	1	2	3.85
Struck by piece of ice, .....	....	....	....	....	....	....	....	....	....	....	....	....	1	1.92
Struck by piece of rock, .....	....	....	....	....	....	1	....	....	....	....	....	....	1	1.92
Totals, .....	3	5	1	7	3	4	2	2	3	6	3	13	52	100.00
Outside														
Cars, .....	....	....	....	....	....	....	1	....	....	....	1	1	3	42.86
Machinery, .....	....	....	....	1	1	....	....	....	....	....	....	....	2	28.57
Struck by rail, .....	....	1	....	....	....	....	....	....	....	....	....	....	1	14.28
Struck by rock, .....	....	....	....	....	....	1	....	....	....	....	....	....	1	14.29
Totals, .....	....	1	....	1	1	1	1	....	....	....	1	1	7	100.00
Grand totals inside and outside, .....	3	6	1	8	4	5	3	2	3	6	4	14	59	.....

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
Inside													
Miners, .....	1	.....	2	.....	1	.....	2	1	1	3	.....	1	14
Miners' laborers, .....	2	3	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	8
Company men, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	2
Totals, .....	3	3	2	.....	1	.....	4	1	1	3	1	1	24
Outside													
Jig runners, .....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Runners, .....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Totals, .....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	2
Grand totals inside and outside, .....	3	3	3	.....	2	.....	4	1	1	3	1	1	26

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
Inside													
Assistant mine foremen, .....	.....	2	.....	3	.....	2	.....	.....	.....	1	.....	3	1
Miners, .....	1	.....	.....	.....	1	2	1	.....	3	.....	.....	.....	20
Miners' laborers, .....	1	3	.....	3	1	1	.....	2	3	1	5	.....	20
Drivers and runners, .....	1	.....	.....	.....	1	1	.....	.....	.....	.....	2	.....	5
Footmen, .....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Headmen, .....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Company men, .....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
Rockmen, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
Chargemen, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
Engineers, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
Totals, .....	3	5	1	7	3	4	2	2	3	6	3	13	52
Outside													
Car repairers, .....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Engineers and firemen, .....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Laborers, .....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	3
Drivers, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	2
Runners, .....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
Totals, .....	.....	1	.....	1	1	1	1	.....	.....	.....	1	1	7
Grand totals inside and outside, .....	3	6	1	8	4	5	3	2	3	6	4	14	59

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months											Totals
	January	February	March	April	May	June	July	August	September	October	November	December
American, .....	...	...	...	...	...	...	1	...	...	1	...	2
English, .....	...	...	...	...	...	...	...	...	...	1	...	1
Irish, .....	...	...	1	...	1	...	...	...	...	3	1	6
Polish, .....	...	...	3	...	...	...	3	...	...	...	...	4
Italian, .....	1	...	...	...	...	...	...	...	1	1	...	4
Slavonian, .....	...	...	...	...	...	...	...	...	...	1	...	1
Lithuanian, .....	...	...	...	...	...	...	...	1	...	...	...	1
Austrian, .....	2	1	...	...	1	...	...	...	...	...	...	4
Russian, .....	...	1	...	...	...	...	1	...	...	1	...	3
Totals, .....	3	2	3	...	2	...	4	1	1	8	1	26

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months											Totals
	January	February	March	April	May	June	July	August	September	October	November	December
American, .....	...	...	...	1	2	...	1	...	...	...	...	3
Welsh, .....	...	...	...	...	...	...	...	...	...	1	...	1
Irish, .....	...	...	1	...	...	...	...	...	1	...	...	3
German, .....	...	...	1	1	...	...	...	...	1	3	2	1
Polish, .....	...	1	...	...	...	2	...	...	...	...	2	13
Italian, .....	1	2	...	1	...	1	...	1	1	1	3	13
Slavonian, .....	...	...	...	...	...	...	...	1	...	...	...	2
Lithuanian, .....	...	...	...	...	...	...	1	...	...	...	...	1
Austrian, .....	...	...	...	...	...	...	1	...	...	...	...	1
Russian, .....	2	3	...	1	...	2	...	...	...	1	...	9
Totals, .....	3	6	1	8	4	5	3	2	3	6	4	59

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
<b>Pennsylvania Coal Co.</b>																
<b>Hery:</b>																
Pennsylvania No. 1, Colliery:	Shaft, .....	Gaseous, ..	{ 2 Fans, {	20.0	6.6	5.5	70	1.5	Gubal, ...	Steam, .....	...	16	149,815	133,750	157,055	303
Pennsylvania No. 1, Colliery:	Shaft, .....	Non-gas, ..	{ Fan, {	17.8	5.0	5.3	70	1.2	Gubal, ...	Steam, .....	...	1	10,000	9,500	10,500	40
Gipsy Grove, .....	Drift, .....	Non-gas, ..	{ Fan, {	18.0	5.0	4.5	70	1.0	Gubal, ...	Steam, .....	...	8	95,200	80,500	106,700	211
Columbia, .....	Slope, .....	Non-gas, ..	{ Fan, {	17.8	5.0	5.3	60	.9	Gubal, ...	Steam, .....	...	3	18,700	18,000	19,400	58
Marcy, .....	Slope, .....	Non-gas, ..	{ Fan, {	7.0	1.5	2.8	230	1.3	Propeller, ..	Electricity, ..	...	3	26,500	25,000	27,900	73
<b>Pennsylvania No. 5 Colliery:</b>																
Pennsylvania No. 5, .....	Shaft, .....	Gaseous, ..	{ 2 Fans, {	20.0	6.6	5.5	75	1.5	Gubal, ...	Steam, .....	...	7	92,140	72,200	108,400	232
Pennsylvania No. 5, .....	Shaft, .....	Gaseous, ..	{ Fan, {	17.8	5.0	5.3	45	.4	Gubal, ...	Electricity, ..	...	1	...	...	...	...
<b>Underwood Colliery:</b>																
Underwood, .....	Shaft, .....	Gaseous, ..	{ 2 Fans, {	14.0	6.0	4.6	60	1.5	Jeffrey, ...	Steam, .....	...	4	80,000	71,350	81,050	207
<b>Delaware, Lackawanna and Western Railroad Co. (including Hudson Coal Co.)</b>																
Diamond No. 2, .....	Shaft, .....	Gaseous, ..	{ Fan, {	14.0	4.0	4.0	90	1.5	Gubal, ...	Steam, .....	...	6	123,200	10,500	154,900	350
Diamond, .....	Drift, .....	Non-gas, ..	{ Fan, {	14.0	4.0	4.0	90	1.5	Gubal, ...	Steam, .....	...	3	48,460	45,035	52,380	189
Diamond, Tripp, .....	Shaft, .....	Gaseous, ..	{ Fan, {	15.6	7.0	1.6	88	1.8	Jeffrey, ...	Steam, .....	...	2	146,480	123,401	189,320	428
Diamond Tripp, .....	Slope, .....	Non-gas, ..	{ Fan, {	...	...	3.0	...	...	...	...	...	2	31,500	33,200	61,840	46



Manville Colliery:	Shaft, ....	Gaseous, ..	Fan, .....	20.0	5.0	5.0	68	.9	Guibal, ...	Steam, .....	5	170,310	160,140	175,570	181
Manville, .....															
Scranton Coal Co.															
Pine Brook Colliery:	Shaft, ....	Gaseous, ..	Fan, .....	17.5	5.0	6.0	102	1.2	Guibal, ...	Steam, .....	13	205,250	190,000	250,000	803
Pine Brook, .....															
Mount Pleasant Colliery:	Shaft, ....	Gaseous, ..	Fan, .....	20.0	5.6	6.9	60	.7	Guibal, ...	Steam, .....	7	103,400	100,000	170,000	330
Mount Pleasant (Main), ..	Shaft, ....	Gaseous, ..	Fan, .....	12.0	3.2	3.5	80	.6	Guibal, ...	Steam, .....	7	85,500	81,000	148,200	330
Mount Pleasant (Surface)															
Price-Pancoast Coal Co.															
Pancoast Colliery:	Shaft, ....	Gaseous, ..	3 Fans, {	20.0	6.0	5.6	70	1.2	Guibal, <sup>2</sup> ...	Steam, .....	32	386,739	351,475	398,570	1130
Pancoast, .....				20.0	6.0	5.6	90	2.5	Guibal, ...	Steam, .....					
				20.0	7.0	3.0	100	4.1	Jeffrey, ...	Steam, .....					
Nay Aug Coal Co.															
Nay Aug Colliery:	Slope, .....	Non-gas, ..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	1	26,600	24,300	28,200	72
Nay Aug No. 1, .....	Drift, .....	Non-gas, ..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	1	23,300	21,400	25,300	55
Nay Aug, .....	Drift, .....	Non-gas, ..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	1	17,600	15,900	18,900	40
Nay Aug No. 3, .....															
Spencer Coal Co.															
Spencer Colliery:	Shaft, ....	Non-gas, ..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	5	20,000	25,000	36,800	95
Spencer No. 1, .....	Shaft, ....	Non-gas, ..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	3	18,000	14,200	22,200	50
Spencer No. 2, .....															
Green Ridge Coal Co.	Slope, ....	Gaseous, ..	Fan, .....	16.0	5.0	4.6	48	2.5	Guibal, ...	Steam, .....	9	90,540	71,720	108,750	120
Green Ridge Colliery:															
Green Ridge, .....															
Carney and Brown Coal Co.	Slope, .....	Non-gas, ..	Furnace, ..	.....	.....	.....	.....	.....	.....	.....	32	13,291	13,396	13,396	56
Carney and Brown Colliery:															
Carney and Brown, ....															
No. 6 Coal Co.	Slope, .....	Non-gas, ..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	1	7,100	7,100	7,600	20
No. 6 Colliery:	Drift, ....	Non-gas, ..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	1	4,600	4,600	4,800	4
No. 6, .....															
No. 6,* .....															

\*New mine.



TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employees	Total production of coal in tons	Number of days worked	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Pennsylvania Coal Co.													
Pennsylvania No. 1, .....	} Lackawanna, {	800,259	27,807	2,415	830,481	295	1,531	2	2	832,500	.....	22,000	71
Pennsylvania No. 5, .....		294,008	10,775	8,063	312,753	257	617	1	3	292,500	.....	14,300	37
Underwood, .....		277,686	35,402	437	313,516	285	561	4	7	201,550	49,750	37,500	5
Totals, .....		1,371,953	73,945	10,851	1,456,749	.....	2,709	7	12	1,376,550	49,750	74,400	113
Delaware, Lackawanna and Western Railroad Co. (Including Hudson Coal Co.)													
Diamond, .....	} Lackawanna, {	484,840	.....	.....	484,840	205	1,279	1	4	647,525	66,762	.....	143
Manville, .....		70,064	21,588	1,414	93,066	198	243	2	2	68,725	1,233	.....	36
Diamond Washery, .....	} Lackawanna, {	554,904	21,588	1,414	577,906	.....	1,522	3	6	716,250	68,000	.....	179
Totals, .....		4,927	2,328	.....	7,255	272	15	1	.....	.....	.....	.....	2
Scranton Coal Co.													
Pine Brook, .....	} Lackawanna, {	559,831	23,916	1,414	585,161	.....	1,537	4	6	716,250	68,000	.....	181
Mount Pleasant, .....		407,299	33,000	5,153	445,482	183	996	6	4	658,750	15,200	.....	117
Totals, .....		96,936	20,275	1,625	118,836	137	342	3	12	145,700	4,200	.....	50
Price-Pancoat Coal Co.													
Pancoat, .....	} Lackawanna, {	504,235	53,275	6,778	564,288	.....	1,338	9	16	804,450	19,600	.....	167
Totals, .....		445,751	58,400	4,519	508,670	224	1,367	1	10	638,225	15,550	703,775	115



TABLE 2.—Part 2  
Number and kinds of boilers and locomotives in use, number of steam engines, pumps, electric dynamos and air compressors in use, etc.

Names of Operators	County	Number of Boilers				Locomotives				Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors	
		Cylindrical	Horse power	Tubular	Horse power	Gasoline	Steam	Air	Electric								
Pennsylvania Coal Co., .....	Lackawanna.	.....	.....	32	5,300	5,300	.....	.....	.....	41	60	4,950	9	6,650	3,000	10	1
Danville, Lackawanna and Western, .....		.....	.....	13	2,932	2,932	.....	4	.....	5	36	2,811	17	7,733	6,898	.....	.....
Scranton, Lackawanna and Hudson, .....		.....	360	12	2,425	2,425	.....	1	.....	8	29	2,358	7	4,000	3,900	3	3
Scranton Coal Co., .....		.....	.....	8	2,300	2,300	.....	.....	.....	.....	24	1,693	3	.....	2,500	3	2
Price-Pancoast Coal Co., .....		.....	.....	3	240	240	.....	.....	.....	.....	4	150	.....	.....	.....	.....	.....
Nay Aug Coal Co., .....		.....	.....	2	250	425	.....	.....	.....	6	6	370	.....	.....	.....	.....	.....
Spencer Coal Co., .....		.....	175	6	750	750	.....	.....	.....	3	8	594	.....	.....	.....	.....	.....
Green Ridge Coal Co., .....		.....	.....	3	360	360	.....	.....	.....	.....	4	115	.....	.....	.....	.....	.....
Carney and Brown Coal Co., ..		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals, .....		17	535	79	14,258	14,793	.....	5	.....	63	171	13,071	36	24,367	16,298	15	6

TABLE 3.—Number of each class of employees inside and outside of mines

Names of Operators	County	Inside										Outside										Grand total	
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employees	Total outside		
Pennsylvania Coal Co., ....	Lackawanna,	5	16	1	670	697	90	34	13	253	253	2,032	2	3	51	41	178	31	4	367	677	2,709	
Delaware, Lackawanna and Western Railroad (Including Hudson Coal Co.), .....		4	3	9	398	475	151	34	10	158	....	1,239	1	4	15	39	60	14	7	158	298	1,537	
Scranton Coal Co., .....		2	3	8	352	311	211	42	9	140	1,078	....	1	2	16	30	85	18	2	107	290	1,338	
Price-Faucon Coal Co., .....		3	2	9	311	348	180	70	7	69	131	1,130	1	1	6	22	70	41	5	91	237	1,367	
Economy Light, Heat and Power Co., .....		1	2	....	68	70	19	....	....	3	4	167	1	1	2	1	3	....	....	9	10	10	
N. Y. & A. C. Coal Co., .....		1	1	....	52	57	12	....	....	2	20	145	1	1	3	9	....	....	2	22	31	200	
Spencer Coal Co., .....		1	1	....	44	48	13	....	2	3	8	120	1	1	7	7	17	....	2	39	55	200	
Green Ridge Coal Co., ....		1	1	....	16	16	8	....	....	6	7	56	1	1	2	4	....	....	2	27	62	182	
Carney and Brown Coal Co., .....		1	2	....	10	10	3	....	....	....	....	24	....	1	1	....	....	3	....	16	37	93	
No. 6 Coal Co., .....		1	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	1	4	9	33	
Totals, .....		19	26	23	1,921	2,032	637	180	41	494	563	5,991	8	16	102	153	428	105	26	840	1,678	7,669	





TABLE 4.—Fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 19	Alex Vinnick, ....	Austrian, .....	Laborer, .....	21	S.	....	....	Underwood, ..	Lackawanna	Killed by mine cars at face of slope.
20	John Jizak, .....	Austrian, .....	Laborer, .....	35	M.	1	9	Mount Pleasant, ..		Fatally injured by premature blast at face.
26	Anthony Yemey, ....	Italian, .....	Miner, .....	36	M.	1	1	ant, .....		Died a few hours later at hospital.
Feb. 1	Mike Howish, .....	Austrian, .....	Laborer, .....	50	M.	....	2	Pine Brook, ..		Killed by fall of roof 8 feet from face.
18	Wasil Lesko, .....	Russian, ....	Laborer, .....	35	M.	1	4	Underwood, ...		Fatally injured by slide of bottom rock at face.
March 4	Alex. Luscavage, ....	Polish, .....	Miner, .....	24	S.	....	....	Pennsylvania No. 1, ..		Died a few hours later at hospital.
8	Adam Stanitus, .....	Polish, .....	Miner, .....	36	S.	....	....	Pine Brook, ..		Killed by fall of roof while "robbing pillars."
31	David Meehan, .....	Irish, .....	Jig-runner, ...	26	M.	1	1	Diamond Washery, .....		Fatally injured by explosion of powder about 100 feet from face. Died March 10.
May 13	Daniel Keeligher, ...	Irish, .....	Miner, .....	45	M.	1	4	Marville, .....		Killed by machinery 23 feet from his regular place. Outside.
28	John Gross, .....	Austrian, ..	Runner, .....	40	M.	1	2	Pine Brook, ...		Fatally injured by fall of roof at face.
July 3	Joe. Sokolofsky, ....	Russian, ....	Laborer, .....	20	S.	....	....	Pancoast, .....	Lackawanna	Died a few hours later at hospital.
17	John Madden, .....	American, ...	Company man, ..	30	S.	....	....	Mount Pleasant, ..		Fatally injured by falling rock about middle of vein in pillar place.
24	Joe. Andruscavage, ..	Polish, .....	Miner, .....	32	M.	1	1	Pennsylvania No. 1, ..		Fatally injured by falling down shaft. Died July 21.
28	Frank Martin, .....	Polish, .....	Miner, .....	57	M.	1	3	Pine Brook, ...		Killed by fall of roof in pillar place.
Aug. 17	John Sukus, .....	Lithuanian, ..	Miner, .....	51	M.	1	....	Marville, .....		Killed by premature blast 15 feet from face.
Sept. 10	Louis Cinga, .....	Italian, .....	Miner, .....	30	M.	1	....	Nay Aug, ....		Fatally injured by premature blast 10 feet from face.
Oct. 4	Adam Plencavage, ...	Russian, ....	Miner, .....	40	M.	1	6	Diamond, .....		Fatally injured by fall of roof in pillar place.
6	Samuel Neidig, .....	American, ...	Laborer, .....	38	S.	....	....	Mount Pleasant, ..		Fatally injured by fall of roof later in hospital.
8	Peter Curst, .....	Italian, .....	Miner, .....	26	S.	....	....	ant, .....		Killed by delayed blast at face.
										Killed by fall of roof at face.
										Killed by fall of roof in pillar place.

O. C.	12	{ Michael Sullivan, ..	Irish, .....	Miner	.....	52	M.	1	1	{ Spencer, .....		
		{ Martin Curley, ..	Irish, .....	Laborer,	.....	40	S.	.....	1	{ Pennsylvania		
	13	Alex. Lingo, .....	Slavonian, ..	Laborer,	.....	22	M.	.....	1	No. 5,		
		Thomas Collins, .....	Irish, .....	Miner,	.....	43	M.	1	6	Pine Brook,		
	22	Thomas Coop, .....	English, ..	Miner, .....	.....	36	M.	1	1	Pine Brook,		
Nov.	30	Anthony Dougherty, ..	Irish, .....	Company man,	.....	45	S.	.....	.....	Spencer, .....		
Dec.	3	James Minozzi, .....	Italian, .....	Miner, .....	.....	24	S.	.....	.....	Underwood, ...		

Killed by fall of roof in pillar place.

Fatally injured by fall of roof 16 feet from face. Died at hospital October 17.

Fatally injured by premature blast 12 feet from face. Died at hospital October 21.

Killed by premature blast at face.

Killed by fall of roof on main road.

Killed by explosion of gas on main road.

LACKAWANNA

TABLE 5.—Non-fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 4	{ Mike Stiscavage, .. { Walter Warbey, ..	Russian, .... Russian, ....	Miner, ..... Laborer, .....	24 M. 19 S.		{ Pancoast, ..... Nay Aug, .....	Lackawanna	{ Arms slightly burned by powder at face. { Arms and face slightly burned.
30	Diminick Manche, ...	Italian, ....	Driver, .....	25 S.		Nay Aug, .....		Leg broken by mine cars on main road.
Feb. 3	Joseph Azzarelli, ...	Italian, ....	Miner, .....	33 M.		Mount Pleasant, .....		Body bruised by fall of roof at face.
8	Sam. Geoddu, .....	Russian, ....	Laborer, .....	24 M.		Green Ridge, .....		Arm broken by fall of roof at face.
9	Mike Cadenesh, .....	Russian, ....	Laborer, .....	30 M.		Underwood, .....		Leg crushed by piece of bottom rock few feet from face.
18	Alex. Colashuk, ....	Russian, ....	Laborer, .....	27 S.		Pancoast, .....		Internally injured while loading rails.
27	Andrew Swansey, ....	Russian, ....	Laborer, .....	56 M.		Mount Pleasant, .....		Foot fractured by mine cars on main road.
March 16	Walter Teisersky, .. John McHale, .....	Polish, ..... Irish, .....	Laborer, ..... Footman, .....	28 S. 46 M.		Mount Pleasant, .....		Arm fractured by piece of ice that fell down shaft.
April 2	Henry Acker, .....	German, ....	Miner, .....	64 M.		No. 6, .....		Leg broken by fall of roof at face.
	Vitis Wangitis, .....	Lithuanian, ..	Miner, .....	45 M.		Diamond, .....		Leg fractured by flying coal from delayed blast at face.
	Ed. Colclmik, .....	Russian, ....	Miner, .....	22 S.		Diamond, .....		Leg fractured by flying coal from pre-mature blast 30 feet from face.
3	Joseph Capes, .....	Italian, ....	Laborer, .....	20 S.		Pennsylvania No. 1, ..		Leg fractured by fall of roof at face.
6	Thomas Calpin, .....	Irish, .....	Laborer, .....	52 M.		Pine Brook, .....		Leg fractured by mine cars 25 feet from face.
14	John Dorasky, .....	Lithuanian, ..	Laborer, .....	25 S.		Underwood, .....		Arm broken by conveyor line a few feet from face.
20	John Rusick, .....	American, ..	Headman, .....	20 S.		Mount Pleasant, .....		Back sprained by lifting mine car on main road.
	William Ruane, .....	Irish, .....	Fireman, .....	27 M.		Pine Brook, .....		Foot cut. Caused by blower on boiler. Outside.
May 15	{ Joseph Raynock, .... { Stanley Runeth, ....	Polish, ..... Polish, .....	Miner, ..... Laborer, .....	25 M. 20 S.		{ Mount Pleasant, ..... Pine Brook, .....		{ Face and hands slightly burned by lamp coming in contact with powder at face. { Legs, face and hands slightly burned.
29	John Case, .....	American, ..	Car-repairer, ..	45 M.		Pine Brook, .....		Finger cut off by power saw in carpenter shop. Outside.
	Patrick McHale, ....	American, ..	Driver, .....	25 M.		Mount Pleasant, .....		Face injured. Kicked by a mule on main road.
June 10	John Kaja, .....	Russian, ....	Laborer, .....	28 M.		Underwood, .....		Foot injured by standing too close to a piece of loose rock removed by miner at face.

June	11	John Kooshelivich, ..	Russian, ..	Miner, .....	23	S.	Nay Aug, .....	Hand injured by the explosion of a cap at face.
	21	Bolish Boloweski, ....	Polish, .....	Driver, .....	18	S.	Mount Pleasant, .....	Mouth injured. Kicked by a mule on main road.
	22	Anthony Kufko, .....	Polish, .....	Miner, .....	51	M.	Mount Pleasant, .....	Foot injured by fall of roof at face.
	24	Tony Demcon, .....	Italian, .....	Laborer, .....	22	S.	Pennsylvania No. 1, ..	Leg fractured by stone rolling down an embankment on which he was working. Outside.
July	12	Charles Brazitus, ....	Lithuanian, ..	Miner, .....	55	M.	Manville, .....	Leg fractured by fall of roof at face.
	19	Henry Griffiths, .....	American, ..	Company man, ..	27	M.	Diamond, .....	Itibs fractured. Kicked by a mule on main road.
	27	Joseph Keletske, ....	Austrian, ..	Runner, .....	37	M.	Pine Brook, .....	Hip dislocated by being squeezed between cars. Outside.
Aug.	3	Michael Gsansunto, ..	Italian, .....	Laborer, .....	37	M.	Nay Aug, .....	Leg cut off by fall of roof in pillar place.
	28	Charles Scrip, .....	Slavonian, ..	Laborer, .....	33	M.	Green Ridge, .....	Back injured by fall of roof in pillar place.
Sent.	2	Ignatz Mortusiewicz, ..	Polish, .....	Miner, .....	50	S.	Pancoast, .....	Hip injured by premature blast 37 feet from face.
	20	Peter Judge, .....	Irish, .....	Miner, .....	33	S.	Diamond, .....	Head and hip injured by explosion of powder 12 feet from face.
Oct.	25	George Sante, .....	Italian, .....	Miner, .....	28	M.	Mount Pleasant, .....	Spine fractured by fall of roof at face.
	6	Cerlo Gregio, .....	Italian, .....	Laborer, .....	28	M.	Nay Aug, .....	Spine fractured by fall of roof at face.
	7	Mike Ornslock, .....	Russian, .....	Miner, .....	30	M.	Mount Pleasant, .....	Rib fractured by fall of roof at face.
	13	Conrad Mishlosky, ....	Polish, .....	Laborer, .....	35	M.	Pennsylvania No. 5, ..	Scalp wounds by fall of roof 16 feet from face.
	15	{ Martin Shimensky, ..	Polish, .....	Miner, .....	39	M.	Pancoast, .....	{ Back sprained by fall of top coal at face.
	22	{ Frank Ozhurney, ....	Polish, .....	Laborer, .....	24	S.	Pancoast, .....	{ Head injured.
	22	David Rosar, .....	Welsh, .....	Assistant fore- man, .....	40	M.	Pennsylvania No. 5, ..	Leg fractured by flying coal from blast 30 feet from face.
Nov.	3	Charles Welcho, .....	Polish, .....	Laborer, .....	33	M.	Spencer, .....	Leg crushed by mine cars on main road.
	8	John Waski, .....	Polish, .....	Miner, .....	33	M.	Pancoast, .....	Leg crushed by fall of roof at face.
	9	Ralph Lamort, .....	Italian, .....	Miner, .....	30	M.	Spencer, .....	Head and shoulders injured by mine cars on main road.
	13	Antonio Nalli, .....	Italian, .....	Driver, .....	22	S.	Nay Aug, .....	Thumb lacerated by mine cars. Outside.
Dec.	1	Steve Pillo, .....	Austrian, ..	Miner, .....	40	M.	Pancoast, .....	Leg fractured by fall of roof at face.
	3	{ Patrick McKone, ....	Irish, .....	Chargeman, ..	45	M.	{ Underwood, .....	Burned by explosion of gas on main road.
	3	{ Dominick Costo, ....	Italian, .....	Laborer, .....	26	S.	{	
	8	{ Steve Peregunt, ....	Polish, .....	Laborer, .....	23	S.	{	
	8	{ Andrew Huzon, .....	Polish, .....	Laborer, .....	23	S.	{	
	22	{ William Price, .....	American, ..	Engineer, .....	20	M.	{	
	22	{ William Rafferty, ....	American, ..	Runner, .....	21	S.	{	
	24	Edward Redington, ....	Irish, .....	Driver, .....	23	S.	Manville, .....	Left side lacerated. Caught in machinery.
	28	Peter Magolski, .....	Lithuanian, ..	Laborer, .....	27	S.	Pennsylvania No. 5, ..	Fibula dislocated by mine cars on main road.
	29	Joseph Rogers, .....	American, ..	Runner, .....	17	S.	Pancoast, .....	Hand fractured by mine cars. Outside.
	30	Joseph Maribonils, ..	Italian, .....	Miner, .....	33	M.	Nay Aug, .....	Scalp wound and knee injured by premature blast on main road.
	30	John McHale, .....	Irish, .....	Rockman, .....	35	M.	Mount Pleasant, .....	Foot injured by fall of roof at face.
		John Bolthy, .....	Slavonian, ..	Miner, .....	47	M.	{	Slide injured by fall of coal off rib on main road.
		Celoia Otelia, .....	Italian, .....	Laborer, .....	25	S.	{ Nay Aug, .....	{ Back and foot bruised by fall of roof at face.
								{ Head bruised.

Lackawanna

## CONDITION OF COLLIERIES

## PENNSYLVANIA COAL COMPANY

Pennsylvania No. 1 Colliery, Pennsylvania No. 1 Shaft, Gipsy Grove Shaft, Pennsylvania No. 2 Drift, Clark Slope, and Marcy Slope—Ventilation, drainage and safety conditions, good.

Pennsylvania No. 5 Colliery.—Pennsylvania No. 5 Shaft—Ventilation, drainage and safety conditions, good.

Underwood Colliery.—Underwood Shaft—Ventilation, drainage and safety conditions, good.

## DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Diamond No. 2 Shaft and Diamond Tripp Shaft.—Ventilation, drainage and safety conditions, good.

Diamond Drift.—Ventilation, drainage and safety conditions, fair.

Diamond Tripp Slope.—Ventilation, good. Drainage and safety conditions, fair.

Manville Colliery: Manville Shaft.—Ventilation, drainage and safety conditions, fair.

## SCRANTON COAL COMPANY

Pine Brook Colliery: Pine Brook Shaft.—Ventilation, drainage and safety conditions, good.

Mount Pleasant Colliery: Mount Pleasant (Main) Shaft.—Ventilation, drainage and safety conditions, good.

Mount Pleasant (Surface) Shaft.—Ventilation, drainage and safety conditions, fair.

## PRICE-PANCOAST COAL COMPANY

Pancoast Colliery: Pancoast Shaft.—Ventilation, drainage and safety conditions, good.

## NAY AUG COAL COMPANY

Nay Aug Colliery: Nay Aug No. 1 Slope, Nay Aug Drift, and Nay Aug No. 3 Drift.—Ventilation, good. Drainage and safety conditions, fair.

## SPENCER COAL COMPANY

Spencer Colliery: Spencer Nos. 1 and 2 Shafts.—Ventilation and drainage, good. Safety conditions, fair.

## GREEN RIDGE COAL COMPANY

Green Ridge Colliery: Green Ridge Slope.—Ventilation, drainage and safety conditions, fair.

## CARNEY AND BROWN COAL COMPANY

Carney and Brown Colliery: Carney and Brown Slope.—Ventilation, drainage and safety conditions, fair.



## NO. 6 COAL COMPANY

No. 6 Colliery: No. 6 Slope.—Ventilation and drainage, good. Safety conditions, fair.

No. 6 Drift.—Ventilation and safety conditions, fair. Drainage good.

## IMPROVEMENTS

## PENNSYLVANIA COAL COMPANY

Underwood Colliery.—A rock slope 7 feet by 12 feet and 500 feet long, was driven from the Clark vein to the New County vein for development purposes. A wash-house for employes was built on the outside 30 feet in width and 110 feet long. A storehouse, 30 feet by 80 feet of steel and galvanized iron, was constructed. Approach to the slope from the outside to the first Dunmore vein was concreted. Much grading and finishing was done on the outside.

Pennsylvania No. 5 Colliery.—A brick building, 40 feet by 170 feet, was erected on the outside to replace the old mule barn. This building accommodates mules, outside teams and wagons. On the inside a rock tunnel was driven from the second to the third Dunmore vein in the Bunker Hill section.

## DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Diamond Colliery.—Installed engine and fan for boiler plant. Painted three sides of breaker. The dust system in breaker is being improved. Installed conveyor line, pit, etc., for handling Cayuga coal. Also installed one 7-ton locomotive with reel, etc., two shortwall coal-cutting machines, and one longwall coal-cutting machine.

## PRICE-PANCOAST COAL COMPANY

Pancoast Colliery.—Built new fire room and installed 6 new water tube Maxim boilers.

## SPENCER COAL COMPANY

Spencer Colliery.—Installed 2 sets of double-deck shakers in the breaker. No. 2 shaft was retimbered, and new ropes were placed in Nos. 1 and 2 shafts.



## FOURTH DISTRICT

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LACKAWANNA COUNTY

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Scranton, Pa., February 15, 1916.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my report as Inspector of Mines for the Fourth Anthracite District, for the year ending December 31, 1915.

Respectfully submitted,

JENKIN T. REESE,  
Inspector.

## SUMMARY OF STATISTICS

Number of collieries, .....	15
Number of mines, .....	37
Number of mines in operation, .....	37
Number of tons of coal shipped to market, .....	3,326,411
Number of tons used at mines for steam and heat, ....	131,084
Number of tons sold to local trade and used by employes,	166,545
Number of tons produced, .....	3,624,040
Number of tons produced by compressed air machines, .....	.....
Number of tons produced by electrical machines, ....	.....
Number of persons employed inside of mines, .....	7,011
Number of persons employed outside, .....	1,663
Number of fatal accidents inside of mines, .....	29
Number of fatal accidents outside, .....	.....
Number of non-fatal accidents inside of mines, .....	41
Number of non-fatal accidents outside, .....	1
Number of tons of coal produced per fatal accident in- side, .....	124,967
Number of tons produced per fatal accident outside, ..	.....
Number of tons produced per fatal accident inside and outside, .....	124,967
Number of persons employed per fatal accident inside, ..	242
Number of persons employed per fatal accident outside, ..	.....
Number of persons employed per fatal accident inside and outside, .....	299
Number of persons employed per non-fatal accident in- side, .....	171
Number of persons employed per non-fatal accident out- side, .....	1,663
Number of persons employed per non-fatal accident in- side and outside, .....	207
Number of wives made widows, .....	20
Number of children made orphans, .....	43
Number of steam locomotives used inside of mines, ...	1
Number of steam locomotives used outside, .....	13
Number of compressed air locomotives used inside, ....	.....
Number of compressed air locomotives used outside, ....	1
Number of electric motors used inside, .....	105
Number of electric motors used outside, .....	1
Number of gasoline locomotives used inside, .....	1
Number of fans in use, .....	24
Number of furnaces in use, .....	.....
Number of gaseous mines in operation, .....	22
Number of non-gaseous mines in operation, .....	15
Number of new mines opened, .....	1
Number of old mines abandoned, .....	.....

TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
Delaware, Lackawanna and Western Railroad Company,	2,774,460
Delaware and Hudson Company, .....	356,937
Peoples Coal Company, .....	227,105
Scranton Coal Company, .....	173,793
South Side Coal Company, .....	43,779
Minooka Coal Company, .....	16,910
Carleton Coal Company, .....	14,500
Scranton Anthracite Coal Company, .....	12,500
Spruks Coal Company, .....	4,056
Total, .....	<u>3,624,040</u>

## Production by Counties

Lackawanna, ..	<u>3,624,040</u>
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TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Delaware, Lackawanna and Western Railroad Co., .....	20	.....	20	25	.....	25	138,723	106,710	5,382	1,130	6,512	269	.....	207	.....
Delaware and Hudson Co., .....	5	.....	5	7	1	8	71,387	50,991	677	230	907	135	.....	97	230
Peoples Coal Co., .....	1	.....	1	.....	.....	.....	227,105	.....	319	106	425	319	.....	61	.....
Scranton Coal Co., .....	2	.....	2	7	.....	7	86,897	24,828	425	97	522	213	.....	.....	.....
Scranton Coal Co., .....	1	.....	1	1	.....	1	14,500	.....	30	15	45	30	.....	.....	.....
Scranton Anthracite Coal Co., .....	.....	.....	.....	1	.....	1	.....	12,500	112	18	130	.....	.....	112	.....
Miscellaneous Companies, .....	.....	.....	.....	.....	.....	.....	.....	.....	66	67	133	.....	.....	.....	.....
Totals and averages, .....	29	.....	29	43	1	42	124,967	88,391	7,011	1,663	8,674	242	.....	171	1,663



TABLE C.—Causes of Fatal Accidents Inside and Outside of Mines

	Months												Percentages
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
<b>Inside</b>													
Falls of coal, .....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	2	6.90
Falls of roof, .....	.....	1	.....	2	4	1	1	1	1	1	3	15	51.72
Mine cars, .....	2	.....	.....	.....	.....	2	.....	.....	1	.....	.....	7	24.14
Explosions of gas, .....	.....	.....	.....	.....	.....	.....	.....	.....	1	2	.....	2	6.90
Blasts, premature and otherwise, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	2	6.89
Falling into shafts, ...	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	3.45
<b>Totals, .....</b>	<u>2</u>	<u>1</u>	<u>1</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>4</u>	<u>4</u>	<u>3</u>	<u>29</u>
<b>Outside</b>													
(No Accidents)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

TABLE D.—Causes of Non-Fatal Accidents Inside and Outside of Mines

	Months												Percentages
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
<b>Inside</b>													
Falls of coal, .....	.....	2	.....	.....	.....	.....	1	.....	.....	.....	.....	1	2.44
Falls of roof, .....	.....	.....	1	1	2	3	1	3	1	.....	2	16	39.02
Mine cars, .....	.....	1	1	.....	.....	.....	1	.....	1	.....	1	10	24.39
Explosions of powder and dynamite, .....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	4.88
Blasts, premature and otherwise, .....	.....	.....	2	1	.....	.....	1	.....	.....	.....	1	7	17.07
Struck by piece of rock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	2.44
Struck by piece of steel, .....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	2.44
Struck by rope, .....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.44
Falling, .....	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	4.88
<b>Totals, .....</b>	<u>4</u>	<u>4</u>	<u>6</u>	<u>5</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>.....</u>	<u>6</u>	<u>2</u>	<u>41</u>
<b>Outside</b>													
Cars, .....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
<b>Totals, .....</b>	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
<b>Grand totals inside and outside, .....</b>	<u>4</u>	<u>4</u>	<u>6</u>	<u>5</u>	<u>2</u>	<u>4</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>.....</u>	<u>6</u>	<u>2</u>	<u>42</u>

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners, .....			1	2	3		1	1	.....	2	3	1	14
Miners' laborers, .....	1	1	.....	.....	1	1	.....	.....	1	1	1	1	8
Drivers and runners, .....			.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
Doorboys and helpers, .....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	2
Brakemen, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1
Rockmen, .....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	.....	1
Pillar bosses, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Carpenters, .....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Totals, .....	2	1	1	3	4	3	1	1	2	4	4	3	29
Outside (No Accidents)													

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
Inside													
Miners, .....	1	1	3	3	1	1	3	2	1	....	1	1	18
Miners' laborers, .....	1	2	2	2	1	2	....	1	....	....	2	....	13
Drivers and runners, .....	....	....	1	....	....	....	....	....	1	....	....	1	3
Doorboys and helpers, .....	1	....	....	....	....	....	....	....	1	....	....	....	1
Company men, .....	1	1	....	....	....	....	1	....	....	....	1	....	4
Contractors, .....	1	....	1	....	....	....	1	....	....	....	1	....	1
Masons, .....	....	....	....	....	....	....	....	....	....	....	1	....	1
Totals, .....	4	4	6	5	2	3	4	3	2	....	6	2	41
Outside													
Runners, .....	....	....	....	....	....	1	....	....	....	....	....	....	1
Totals, .....	....	....	....	....	....	1	....	....	....	....	....	....	1
Grand totals inside and outside, .....	4	4	6	5	2	4	4	3	2	....	6	2	42

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months											Totals	
	January	February	March	April	May	June	July	August	September	October	November		December
American, .....	1	1	....	1	....	1	....	1	1	....	....	1	7
Welsh, .....	1	....	....	....	1	....	....	....	....	....	1	....	2
Irish, .....	....	....	1	....	....	....	....	....	....	....	1	....	2
Polish, .....	....	....	....	....	....	....	1	....	....	....	1	....	2
Italian, .....	....	....	....	....	....	1	....	....	....	....	1	....	2
Slavonian, .....	....	....	....	....	....	....	....	....	....	3	....	....	3
Lithuanian, .....	....	....	....	....	3	....	....	....	....	....	....	....	3
Russian, .....	....	....	....	2	....	1	....	....	1	1	....	1	6
Totals, .....	2	1	1	2	4	3	1	1	2	4	4	3	29

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
American, .....	1	1	1	....	....	1	1	....	....	....	1	1	7
Welsh, .....	2	....	....	....	....	....	....	....	....	....	1	....	1
Irish, .....	....	....	1	....	....	....	....	....	1	....	1	....	2
Polish, .....	1	....	1	....	....	1	2	2	....	....	1	....	6
Italian, .....	....	1	....	1	....	....	....	....	1	....	....	....	2
Slavonian, .....	....	....	....	....	....	....	....	....	....	....	....	....	1
Lithuanian, .....	....	2	....	1	....	2	....	1	....	....	1	1	4
Russian, .....	....	....	1	2	2	....	1	....	....	....	....	....	6
Swedish, .....	....	....	1	1	....	....	....	....	....	....	1	....	3
Totals, .....	4	4	6	5	2	4	4	3	2	....	6	2	42

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Delaware, Lackawanna and Western Railroad Co.	Shaft,.....	Gaseous, ..	Fan, .....	18	8	3	80	2	Vulcan, ..	Steam, .....	..	19	246,498	224,526	232,490	{ 877
Bellevue Colliery:	Slope,.....	Gaseous, ..	Fan, .....	14	4.5	4	110	.9	Gubal, ..	Steam, .....	..	2	31,000	29,125	41,000	{ 587
Bellevue Colliery:	Shaft,.....	Gaseous, ..	Fan, .....	25	8	6.6	53	1.3	Vulcan, ..	Steam, .....	..	9	123,280	103,618	219,458	{ 587
Dodge Colliery:	Slope,.....	Non-gas, ..	Fan, .....	15	3.6	4.6	56	.6	Gubal, ..	Steam, .....	..	1	26,753	23,049	27,352	{ 350
Dodge, .....	Shaft,.....	Gaseous, ..	Fan, .....	25	7.6	7	54	1	Gubal, ..	Steam, .....	..	8	182,486	166,459	270,042	{ 350
Holden Colliery:	Slope,.....	Non-gas, ..	Fan, .....	17	6	3.3	67	1.3	Gubal, ..	Steam, .....	..	9	174,209	159,400	195,400	{ 648
Holden, .....	Shaft,.....	Gaseous, ..	Fan, .....	25	8	7	60	1.5	Gubal, ..	Steam, .....	..	1	12,000	11,000	12,500	{ 775
National Colliery:	Shaft,.....	Gaseous, ..	Fan, .....	8	2.8	2.2	80	.5	Gubal, ..	Electricity, ..	..	15	244,720	276,990	273,550	{ 775
National, .....	Drift,.....	Gaseous, ..	Fan, .....	24	8	6	66	1.8	Gubal, ..	Steam, .....	..	10	33,020	30,115	44,515	{ 506
National, .....	Drift,.....	Gaseous, ..	Fan, .....	12	4	4	100	1	Gubal, ..	Steam, .....	..	9	136,500	106,100	156,900	{ 467
Archbald Colliery:	Shaft,.....	Gaseous, ..	Fan, .....	24	8	6	64	1.8	Gubal, ..	Steam, .....	..	10	136,500	106,100	156,900	{ 467
Archbald, .....	Slope,.....	Gaseous, ..	Fan, .....	12	4	4	115	1.3	Gubal, ..	Steam, .....	..	3	39,300	39,300	79,400	{ 342
Continental Colliery:	Shaft,.....	Non-gas, ..	Fan, .....	14	4.5	4	115	1.3	Gubal, ..	Electricity, ..	..	5	69,700	58,980	78,490	{ 342
Continental, .....	Slope,.....	Non-gas, ..	Fan, .....	14	4.5	4	115	1.3	Gubal, ..	Electricity, ..	..	5	69,700	58,980	78,490	{ 342
Hyde Park Colliery:	Shaft,.....	Gaseous, ..	Fan, .....	24	8	6	64	1.8	Gubal, ..	Steam, .....	..	10	136,500	106,100	156,900	{ 467
Hyde Park, .....	Shaft,.....	Gaseous, ..	Fan, .....	14	4.5	4	115	1.3	Gubal, ..	Steam, .....	..	3	39,300	39,300	79,400	{ 342
Central, .....	Shaft,.....	Gaseous, ..	Fan, .....	14	4.5	4	115	1.3	Gubal, ..	Electricity, ..	..	5	69,700	58,980	78,490	{ 342
Hyde Park (Surface), .....	Slope,.....	Non-gas, ..	Fan, .....	14	4.5	4	115	1.3	Gubal, ..	Electricity, ..	..	5	69,700	58,980	78,490	{ 342

Sloan Colliery:	Shaft,.....	Gasous, ..	Fan, .....	24	8	6	70	2	Guibal, ..	Steam, .....	7	172,500	160,170	178,850	389
Sloan (Surface Vein), .....	Shaft,.....	Gasous, ..	Fan, .....	24	8	6	70	2.1	Guibal, ..	Steam, .....	7	141,600	107,340	171,500	229
Sloan (Surface Vein), .....	Drift,.....	Non-gas., ..	Fan, .....	24	8	6	70	2.1	Guibal, ..	Steam, .....	7	125,140	108,440	126,220	289
Central, .....	Shaft,.....	Gasous, ..	Fan, .....	24	8	6	70	2.1	Guibal, ..	Steam, .....	7	125,140	108,440	126,220	289
Delaware and Hudson Co.															
Greenwood Colliery:															
Greenwood No. 1 (New), .....	Shaft,.....	Gasous, ..	Fan, .....	17	5	5	75	.4	Guibal, ..	Steam, .....	2	29,900	27,500	32,450	112
Greenwood No. 1 (Old), .....	Shaft,.....	Non-gas., ..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	.....	29,800	27,900	31,900	115
Greenwood Nos. 1 and 2, ..	Drift,.....	Non-gas., ..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	.....	29,800	27,900	33,300	91
Greenwood No. 8, .....	Slope,.....	Non-gas., ..	Nat., .....	14	4	4	80	.4	Guibal, ..	Steam, .....	1	32,700	27,100	34,900	84
Greenwood No. 11, .....	Drift,.....	Non-gas., ..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	.....	19,700	17,400	21,000	30
Greenwood No. 11, .....	Drift,.....	Non-gas., ..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	.....	19,700	17,400	21,000	30
Greenwood No. 2, .....	Shaft,.....	Gasous, ..	Fan, .....	17	5	5	75	.7	Guibal, ..	Steam, .....	.....	45,700	40,800	52,880	102
Greenwood No. 16, .....	Drift,.....	Non-gas., ..	Fan, .....	17	3.25	2.5	70	.3	Guibal, ..	Steam, .....	.....	15,000	14,040	16,500	37
Greenwood No. 14, .....	Drift,.....	Non-gas., ..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	.....	9,600	8,250	11,700	29
Peoples Coal Co.															
Oxford Colliery:															
Oxford, .....	Shaft,.....	Gasous, ..	Fan, .....	16	6	5	95	.7	Vulcan, ..	Steam, .....	9	112,000	112,000	120,000	323
Scranton Coal Co.															
Capouse Colliery:															
Capouse No. 1, .....	Shaft,.....	Gasous, ..	Fan, .....	20	5	5.6	75	1	Guibal, ..	Steam, .....	9	140,000	135,000	152,500	425
Capouse No. 2, .....	Shaft,.....	Gasous, ..	Fan, .....	18	4.10	5	80		.....	.....	.....	.....	.....	.....	.....
Minooka Coal Co.															
Minooka Colliery:															
Minooka, .....	Slope,.....	Non-gas., ..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	2	15,341	14,160	16,250	28
Carleton Coal Co.															
Carleton Colliery:															
Carleton, .....	Drift,.....	Non-gas., ..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	5	27,000	26,400	29,000	31
Scranton Anthracite Coal Co.															
Oak Hill Colliery:															
Oak Hill, .....	Drift,.....	Non-gas., ..	Fan, .....	6	4	1.8	120	.11	Guibal, ..	Steam, .....	3	18,400	15,000	23,350	64
Sprinks Coal Co.															
East Mountain Colliery:															
East Mountain, .....	Drift,.....	Non-gas., ..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	1	7,000	7,500	7,500	23

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Delaware, Lackawanna and Western Railroad Co.						
Bell Mine, .....	Lackawanna,	R. A. Phillips, General Manager.	Scranton,	David Lloyd, .....	Scranton,	D. L. and W.
Dodge, .....						
Hollen, .....						
National, .....						
Archbold, .....						
Continental, .....						
Hyde Park, .....						
Sloun, .....						
Washeries						
Archbold, .....	Lackawanna, ..	R. A. Phillips, .....	Scranton, .....	Thomas J. Williams, .....	Scranton, .....	D. L. and W.
Hyde Park, .....						
Hampton, .....						
Delaware and Hudson Co.	Lackawanna, ..	E. R. Pettebone, ....	Dorrancton, .....	Charles Dorrance, Jr. ....	Scranton, .....	D. and H.
Greenwood, .....						
Greenwood Washery, .....						
Peoples Coal Co., .....	Lackawanna, ..	S. D. Dimmick, ....	Scranton, .....	William McLaughlin, .....	Scranton, .....	D. L. and W.
Scranton Coal Co. ....	Lackawanna, ..	W. L. Allen, .....	Scranton, .....	{ Daniel Young, In- side, .....	{ Scranton, .....	{ N. Y. O. and W. J. F. Cummings, .....
Capouse, .....						
South Side Coal Co. 1, ..	Lackawanna, ..	Frank B. Benjamin, .....	Scranton, .....	{ J. F. Cummings, .....	{ Scranton, .....	{ N. Y. O. and W. Outside, .....
South Side Washery No. 2, ..						
South Side Washery No. 2, ..						
Minooka Coal Co. ....	Lackawanna, ..	H. M. Howard, .....	Scranton, .....	William Carter, ....	Minooka, .....	D. L. and W.
Carleton Coal Co. ....	Lackawanna, ..	John Gibbons, .....	Scranton, .....			Local trade
Scranton Anthracite Coal Co.						
Oak Hill,* .....	Lackawanna, ..	J. D. O'Toole, .....	Scranton, .....			Erie and D. and H.
Spruks Coal Co. ....	Lackawanna, ..	David Spruks, .....	Scranton, .....			Erie
East Mountain, .....						

\*New mine



TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives		
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used
Delaware, Lackawanna and Western Railroad Co.												
Bellevue, .....		478,737	.....	31,916	510,653	233	1,032	.....	4	394,500	23,189	.....
Dodge, .....		319,057	.....	1,739	310,796	230	706	.....	.....	419,650	38,148	.....
Holden, .....		189,355	.....	1,882	203,248	231	738	.....	.....	187,535	8,711	.....
National, .....	Lackawanna,	296,984	10,918	5,094	312,996	228	922	.....	.....	403,600	25,225	.....
Archbald, .....		337,236	17,362	449	405,047	228	922	.....	.....	273,000	12,809	.....
Continental, .....		294,624	45	2,651	297,270	225	622	.....	.....	343,841	34,841	.....
Hyde Park, .....		274,662	41	23,383	298,086	226	830	.....	.....	484,050	40,400	.....
Sloan, .....		366,818	151	17	366,986	205	1,052	.....	.....	604,750	63,115	7,003
		2,517,473	40,566	65,575	2,623,614	.....	6,378	20	26	3,618,960	232,501	7,003
Washeries												
Archbald, .....		5,658	.....	.....	5,658	17	48	.....	.....	.....	.....	.....
Hyde Park, .....		52,708	.....	.....	52,708	170	32	.....	.....	.....	.....	.....
Hampton, .....		92,489	.....	.....	92,480	105	54	.....	.....	.....	.....	.....
		150,846	.....	.....	150,846	.....	134	.....	.....	.....	.....	.....
Totals, .....		2,688,319	40,566	65,575	2,774,460	.....	6,512	20	26	3,618,960	232,501	7,003
Delaware and Hudson Co.												
Greenwood, .....	Lackawanna,	278,647	33,007	2,904	314,558	183	896	5	8	472,275	66,575	.....
Greenwood Washery, .....	Lackawanna,	25,354	17,055	.....	42,409	105	11	.....	.....	.....	.....	.....
Totals, .....		303,971	50,062	2,904	356,937	.....	907	5	8	472,275	66,575	.....

TABLE 2.—Continued

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employees	Total production of coal in tons	Number of days worked	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Oxford, .....	Lackawanna, .....	132,691	12,855	81,559	227,105	240	425	1	.....	19,850	8,500	.....	48
Capouse, .....	Lackawanna, .....	145,825	25,500	2,468	173,793	154	522	2	7	169,300	15,000	.....	75
South Side Coal Co. South Side Washery No. 1, .....	Lackawanna, .....	8,576	120	.....	8,696	76	25	.....	.....	.....	.....	.....	.....
South Side Washery No. 2, .....	Lackawanna, .....	34,785	181	117	35,083	188	27	.....	.....	.....	.....	.....	.....
Totals, .....	.....	43,361	301	117	43,779	.....	52	.....	.....	.....	.....	.....	.....
Minooka Coal Co. Minooka, .....	Lackawanna, .....	16,910	.....	.....	16,910	263	49	.....	.....	11,250	1,400	.....	8
Carleton Coal Co. Carleton, .....	Lackawanna, .....	2,200	300	12,000	14,500	270	45	1	.....	7,500	1,500	.....	14
Scranton Anthracite Coal Co. Oak Hill, .....	Lackawanna, .....	11,000	1,500	.....	12,500	215	130	.....	1	25,000	250	.....	10
Spruks Coal Co. East Mountain, .....	Lackawanna, .....	2,134	.....	1,922	4,056	70	32	.....	.....	3,750	.....	200	9
Grand totals, .....	.....	3,328,411	131,084	166,545	3,624,040	.....	8,674	29	42	4,327,885	325,726	7,203	671





TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked Monthly											
		January	February	March	April	May	June	July	August	September	October	November	December
Delaware, Lackawanna and Western Railroad Co., ...	Lackawanna, ...	12	14	14	23	21	21	12	22	20	21	22	24
Delaware and Hudson Co., .....		16	14	15	15	16	17	13	17	17	15	13	15
Peoples Coal Co., .....		23	20	20	19	20	19	19	20	20	21	21	20
Scranton Coal Co., .....		13	11	11	15	12	10	16	10	11	15	15	15
Minooka Coal Co., .....		24	20	21	21	20	20	25	22	20	23	26	21
Carlleton Coal Co., .....		22	22	23	23	22	22	22	21	22	22	24	24
Scranton Anthracite Coal Co., .....		.....	.....	20	21	15	23	21	24	22	24	25	24
Spruiks Coal Co., .....		.....	.....	.....	.....	4	.....	.....	.....	4	22	18	22
.....		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals		188	189	189	189	189	189	189	189	189	189	189	189

TABLE 4.—Fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 7	Martin Flaherty, .....	American, ..	Laborer, ..	26	S.	....	....	Holden, .....	Lackawanna.	Killed by runaway cars on plane.
Jan. 27	Thomas John, .....	Welsh, .....	Doorman, ..	60	S.	....	....	Bellevue, .....		Killed by fall of roof at face of his chamber.
Feb. 15	Thomas Gore, .....	American, ..	Laborer, ..	38	M.	1	....	National, .....		Killed by fall of coal at face of his chamber.
March 16	Patrick Finnerty, ...	Irish, .....	Miner, ....	43	M.	1	3	National, .....		Killed by fall of roof at face of his chamber.
April 22	Joseph Green, .....	Russian, ....	Miner, ....	38	M.	1	2	Greenwood, .....		Killed by fall of roof at face of his chamber.
	Alex Menotka, .....	Russian, ....	Miner, ....	40	M.	1	6	Greenwood, .....		Killed by fall of roof at face of his chamber.
May 23	Robert Williams, ....	American, ..	Carpenter, ..	35	M.	1	3	Sloan, .....		Killed by falling down shaft while examining the cage.
May 7	Anthony Warkunas, ..	Lithuanian, ..	Miner, ....	41	S.	....	....	Sloan, .....		Killed by fall of roof at face of his chamber.
May 15	Charles Bennett, ....	Lithuanian, ..	Miner, ....	48	M.	1	....	Capouse, .....		Killed by fall of roof at face of his chamber.
	Troedewskas Maduzum- ba, .....	Lithuanian, ..	Laborer, ..	19	S.	....	....	Capouse, .....		Killed by fall of roof at face of his chamber.
June 21	Thomas Jones, .....	Welsh, .....	Pillar boss, ..	54	M.	1	4	Continental, .....	Lackawanna.	Killed by fall of roof on pillar work.
June 1	Radio Perella, .....	Italian, .....	Laborer, ....	21	S.	....	....	Carlston, .....		Killed by cars in chamber.
June 16	David Williams, ....	American, ....	Rockman, ....	37	M.	1	....	Dodge, .....		Killed by cars on haulage road.
June 30	Julian Nevroskie, ....	Russian, ....	Miner, ....	44	M.	1	3	Greenwood, .....		Killed by fall of roof at face of his chamber.
July 16	Wadeslof Mosar, ....	Polish, .....	Miner, ....	32	S.	....	....	Oxford, .....		Killed by fall of roof at face of his chamber.
Aug. 27	Lewis Collins, .....	American, ..	Miner, ....	45	M.	1	....	Bellevue, .....		Killed by fall of roof at face of his chamber.
Sept. 10	William Fegar, .....	Russian, ....	Laborer, ....	40	M.	1	6	National, .....		Killed by fall of roof at face of chamber.
Sept. 24	Aloisius Durkin, ....	American, ....	Driver, ....	18	S.	....	....	Holden, .....		Killed by cars on gangway.
Oct. 6	Toney Ducluck, .....	Slavonian, ..	Miner, ....	32	M.	1	3	Holden, .....		Fatally burned by explosion of gas in chamber.
	John Francis, .....	Slavonian, ..	Laborer, ....	27	S.	....	....	Holden, .....		Fatally burned by explosion of gas in chamber.
19	Steve Cheponi, .....	Slavonian, ..	Doorman, ....	55	M.	1	2	Holden, .....	Lackawanna.	Killed by cars on gangway.
22	Stanley Zozarski, ....	Russian, ....	Miner, ....	39	M.	1	1	Greenwood, .....		Killed by fall of roof on pillar work.



Nov.	5	Floyd Hensinger, .....	German, ....	Miner, ....	36	M.	1	.....	Holden, .....			Killed by explosion of blast at face of chamber.
	16	Daniel Evans, .....	Welsh, .....	Miner, ....	30	M.	1	.....	Hyde Park, ....			Killed by explosion of blast at face of chamber.
	17	Joseph Cichin, .....	Italian, ....	Laborer, ..	43	M.	1	.....	National, .....			Killed by fall of roof at face of chamber.
	29	Joseph Filbowski, ....	Polish, ....	Miner, ....	53	M.	1	.....	Dodge, .....			Killed by fall of roof at face of chamber.
Dec.	2	George Walinski, ..	Pole, .....	Miner, ....	48	S.	.....	8	Sloan, .....			Killed by fall of roof at face of chamber.
	17	George Gammont, ....	American, ..	Brakeman, ..	22	M.	1	.....	Holden, .....			Killed by fall of roof at face of chamber.
	23	Benjamin Costickie, ..	Russian, ....	Laborer, ..	25	M.	1	.....	Greenwood, .....			Killed by fall of coal at face of chamber.

Lackawanna.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 5	John Mulhern, .....	Irish, .....	Miner, .....	42	M.	Sloan, .....	.....	Face and hands bruised by explosion of blast at face of chamber.
	William King, .....	American, .....	Company man, .....	30	M.	Sloan, .....	.....	Face and head bruised by explosion of blast at face of chamber.
Feb. 27	John Judge, .....	Irish, .....	Doorman, .....	51	M.	Bellevue, .....	.....	Leg broken by cars on gangway.
3	William Smileck, ....	Polish, ....	Laborer, ....	30	M.	Bellevue, .....	.....	Leg broken by cars on gangway.
	Nessie Ladreca, ....	Italian, ....	Miner, .....	28	M.	National, .....	.....	Spine injured by fall of roof at face of chamber.
8	Robert Moran, .....	American, .....	Company man, .....	43	S.	Capouse, .....	.....	Leg bruised by cars at face of chamber.
13	Anthony Saverdonski, ..	Lithuanian, ..	Laborer, .....	31	S.	Capouse, .....	.....	Face and hands burned by explosion of powder in chamber.
23	George Gladonis, ....	Lithuanian, ..	Laborer, .....	22	S.	Capouse, .....	.....	Face and foot bruised by fall of roof at face of chamber.
March 1	Tapsil Davodoski, ....	Polish, .....	Laborer, .....	27	M.	Continental, .....	.....	Chinical fractured by falling at face of chamber.
8	Michael Plack, .....	American, ..	Driver, .....	20	S.	Hyde Park, .....	.....	Leg fractured by cars on gangway.
10	Thomas Rolefski, ....	Russian, ....	Miner, .....	38	M.	Greenwood, .....	.....	Arm fractured by fall of roof at face of chamber.
15	Michael Elisha, .....	Slavonian, ..	Miner, .....	36	W.	Holden, .....	Lackawanna,	Face burned by explosion of blast at face of chamber.
24	Daniel Hartnet, .....	Irish, .....	Laborer, .....	21	M.	Holden, .....	.....	Leg fractured by being struck by rope on the slope.
31	Herman Hulberg, ....	Swedish, ....	Miner, .....	32	M.	Hyde Park, ....	.....	Eyes destroyed by explosion of blast at face of chamber.
April 7	Ignatz Lechik, .....	Russian, ....	Miner, .....	24	S.	Bellevue, .....	.....	Arm fractured by explosion of blast at face of chamber.
20	Ludwig Duda, .....	Russian, ....	Laborer, .....	20	S.	Greenwood, .....	.....	Leg fractured by cars on gangway.
21	Charles Johnson, ....	Swedish, ....	Miner, .....	29	M.	Hyde Park, ....	.....	Arm bruised by falling in chamber.
22	Simon Levetskie, ....	Lithuanian, ..	Laborer, .....	33	S.	Hyde Park, ....	.....	Arm fractured by cars at face of chamber.
30	Ubaldo Fannucci, ....	Italian, ....	Miner, .....	40	S.	National, .....	.....	Body bruised by fall of roof at face of chamber.
May 10	Michael Grayeskie, ..	Russian, ....	Miner, .....	33	M.	Greenwood, .....	.....	Spine injured by fall of roof at face of chamber.
18	Benjamin Lach, .....	Russian, ....	Laborer, .....	27	S.	Greenwood, .....	.....	Back bruised by fall of roof at face of chamber.

June	19	William Gallagher, ..	American, ..	Runner, .....	22	S.	Greenwood, .....	Fingers cut off by cars. Outside.
	15	Simon Taronis, .....	Lithuanian, ..	Laborer, .....	23	S.	Sloan, .....	Back bruised by fall of roof at face of chamber.
	16	Anthony Drulneck, ..	Polish, .....	Laborer, .....	36	M.	Archbald, .....	Leg fractured by fall of roof at face of chamber.
	19	Peter Statz, .....	Lithuanian, ..	Miner, .....	38	M.	Capouse, .....	Back bruised by fall of roof at face of chamber.
July	2	John Neurosky, .....	Polish, .....	Miner, .....	53	M.	Bellevue, .....	Back bruised by explosion of blast at face of chamber.
	16	James Connolly, .....	American, ..	Company man, .....	34	M.	Greenwood, .....	Eye injured by flying steel while cutting a rail.
	29	Powell Marcheski, .....	Russian, ....	Miner, .....	43	M.	Greenwood, .....	Leg fractured by fall of roof at face of chamber.
	30	Andrew Penkilo, ....	Polish, .....	Miner, .....	36	M.	Archbald, .....	Seriously injured by cars in chamber.
Aug.	25	Frank Sackman, .....	Polish, .....	Miner, .....	42	M.	Archbald, .....	Scalp lacerated by fall of roof at face of chamber.
	27	George Cubor, .....	Polish, .....	Laborer, .....	23	S.	Sloan, .....	Leg fractured by fall of roof at face of chamber.
	30	George Milkus, .....	Lithuanian, ..	Miner, .....	55	M.	Capouse, .....	Back bruised by fall of roof at face of chamber.
Sept.	8	Jeremiah Harrington, ..	Irish, .....	Driver, .....	18	S.	Greenwood, .....	Back fractured by cars on gangway.
	27	Peter Balutricea, .....	Italian, .....	Miner, .....	37	S.	National, .....	Leg fractured by fall of roof at face of chamber.
Nov.	3	Roman Manslik, .....	Polish, .....	Laborer, .....	34	M.	Sloan, .....	Chest bruised by fall of roof at face of chamber.
	4	Thomas Burke, .....	Irish, .....	Mason, .....	52	M.	National, .....	Leg broken by rock striking him while repairing wall on gangway.
	5	John James, .....	Welsh, .....	Contractor, .....	51	M.	Holden, .....	Body bruised by explosion of blast at face of tunnel.
	8	John French, .....	American, ..	Company man, .....	30	M.	Archbald, .....	Leg fractured by cars on gangway.
		Feedy Shnosky, .....	Lithuanian, ..	Miner, .....	38	M.	Capouse, .....	Leg fractured by fall of roof at face of chamber.
	11	August Larson, .....	Swedish, ....	Laborer, .....	42	S.	Hyde Park, ....	Hands burned by explosion of fireworks in chamber.
Dec.	14	Edwin Loucender, .....	American, ..	Driver, .....	24	M.	Oak Hill, .....	Leg fractured by cars on gangway.
	24	George Milkus, .....	Lithuanian, ..	Miner, .....	55	M.	Capouse, .....	Leg fractured by fall of coal at face of chamber.

Lackawanna.

## CONDITION OF COLLIERIES

## DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Bellevue, Dodge, Holden, National, Archbald, Continental, Hyde Park and Sloan Collieries.—Ventilation, drainage and condition as to safety, good.

## DELAWARE AND HUDSON COMPANY

Greenwood Colliery.—Ventilation, drainage and condition as to safety, good.

## PEOPLES COAL COMPANY

Oxford Colliery.—Ventilation, drainage and condition as to safety, good.

## SCRANTON COAL COMPANY

Capouse Colliery.—Ventilation, drainage and condition as to safety, good.

## MINOOKA COAL COMPANY

Minooka Colliery.—Ventilation, drainage and condition as to safety, good.

## CARLETON COAL COMPANY

Carleton Colliery.—Ventilation, drainage and condition as to safety, good.

## SCRANTON ANTHRACITE COAL COMPANY

Oak Hill Colliery.—Ventilation, drainage and condition as to safety, good.

## SPRUKS COAL COMPANY

East Mountain Colliery.—Ventilation, drainage and condition as to safety, good.

## IMPROVEMENTS

## DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Bellevue Colliery.—Reopening water courses through silt, Clark vein, for drainage purposes.

Dodge Colliery.—Completed sump in No. 2 Dunmore vein, to take care of the surplus water. Also completed new foot and tunnel from Rock vein to bottom split, Diamond vein, for haulage purposes.

Outside:—Erected a brick and concrete blacksmith and carpenter shop. Built a new mule barn in order to avoid crossing railroad tracks with the mules, which had to be done in the case of the use of the old barn.

Holden Colliery.—Completed rock tunnel from New County vein to Big vein, for haulage purposes. Installed a new steam pump to take care of the surplus water.

Outside:—Renewed casing on ventilating fan.

National Colliery.—Repaired shaft tower. Installed new boilers in order to be able to generate the required amount of steam necessary to operate machinery with safety.

### MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in Scranton, May 18 and 19. The Board of Examiners was composed of Jenkin T. Reese, Mine Inspector; Joseph P. Jennings, Superintendent, Moosic; James W. Reese, Miner, Scranton; and William J. Jenkins, Miner, Scranton.

The following persons passed a satisfactory examination and were granted certificates:

#### MINE FOREMEN

G. Elliott Acker, Richard S. Arscott, Richard Banks, August Bogdansky, Edwin D. Bowen, John J. Cadden, Abel Davis, Anthony Dowgiallo, Thomas J. Evans, Philip Evans, Thomas Francis, David W. Griffiths, Reese Griffiths, James Harper, Frank Harmer, Alfred D. Harris, John Harrison, Richard T. Havard, Joseph Hoffman, Samuel House, Evan Jones, John Jones, James Jones, Benjamin Hodgson, William C. Jones, William J. Jones, John A. Kennedy, William Knuckey, William King, Ernest Lewis, Gomer Lewis, Michael McHale, Patrick McHale, George W. Mackie, Thomas J. Matthews, Thomas M. Morgan, Ralph Oliver, Robert J. Owens, William Parry, William E. Phillips, Reese B. Powell, David Reese, John J. Reese, Robert Reid, John Richards, Edward Roberts, Robert L. Roberts, Charles Szurna, Joshua Taylor, Samuel A. Thomas, Spencer Thomas, Robert N. Walker, William J. Walters, Fred Whatley, David Williams, Griff Williams, Robert E. Williams, William Williams, Scranton; Alfred Bright, Michael R. Budash, Samuel Dawe, Llewellyn J. Evans, Throop;; David Eynon, John Oakey, Benjamin Watkins, Dickson City; John Fox, Thomas O'Hara, William H. Powell, John C. Toole, Minooka; George Hollenbeck, Thomas B. James, George J. Kincel, William Morris, Taylor; Steve Thomas Macko, Wilbur A. Stevens, Dunmore; David J. Thomas, Blakely; William Vessie, Olyphant; Andrew Brown, Pittston.

#### ASSISTANT MINE FOREMEN

Edwin Beecham, David C. Brown, David J. Davies, Thomas X. Davis, William T. Davies, Evan W. Evans, John H. Harvey, Frank Houck, Arthur Jones, John L. Jones, Benjamin Kondrasky, Edward Lewis, James Littlejohn, Henry Lumley, John Ludwidowski, James A. McNamara, John F. Masterson, David T. Morgan, Evan D. Morris, Thomas C. Parry, Anthony Pender, William Evan Rees, John Warren, William T. Williams, Garrett Wren, Scranton; Ralph Atkinson, Throop; William Fitzgerald, Leo H. Winters, Olyphant; John Halpin, Dunmore; Stephen Jordan, Taylor; Benjamin Maschal, Greenwood; Nathan Thomas, Dickson City.





FIFTH DISTRICT

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LACKAWANNA AND LUZERNE COUNTIES

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Rendham, Pa., February 21, 1916.

Hon. James E. Roderick, Chief of Department of Mines:

Sir:—I have the honor to transmit herewith my report as Inspector of Mines for the Fifth Anthracite District, for the year ending December 31, 1915, as required by the Act of April 14, 1903.

Respectfully submitted,

AUGUSTUS McDADE,  
Inspector.

## SUMMARY OF STATISTICS

Number of collieries, .....	10
Number of mines, .....	31
Number of mines in operation, .....	30
Number of tons of coal shipped to market, .....	2,819,619
Number of tons used at mines for steam and heat, .....	259,026
Number of tons sold to local trade and used by employes, .....	43,548
Number of tons produced, .....	3,122,193
Number of tons produced by compressed air machines, .....	
Number of tons produced by electrical machines, .....	
Number of persons employed inside of mines, .....	5,120
Number of persons employed outside, .....	1,521
Number of fatal accidents inside of mines, .....	15
Number of fatal accidents outside, .....	
Number of non-fatal accidents inside of mines, .....	41
Number of non-fatal accidents outside, .....	
Number of tons of coal produced per fatal accident inside, .....	208,146
Number of tons produced per fatal accident outside, .....	
Number of tons produced per fatal accident inside and outside, .....	208,146
Number of persons employed per fatal accident inside, .....	341
Number of persons employed per fatal accident outside, .....	
Number of persons employed per fatal accident inside and outside, .....	443
Number of persons employed per non-fatal accident inside, .....	125
Number of persons employed per non-fatal accident outside, .....	
Number of persons employed per non-fatal accident inside and outside, .....	162
Number of wives made widows, .....	11
Number of children made orphans, .....	16
Number of steam locomotives used inside of mines, .....	
Number of steam locomotives used outside, .....	9
Number of compressed air locomotives used inside, .....	
Number of compressed air locomotives used outside, .....	
Number of electric motors used inside, .....	70
Number of electric motors used outside, .....	
Number of gasoline locomotives used inside, .....	
Number of fans in use, .....	20
Number of furnaces in use, .....	
Number of gaseous mines in operation, .....	16
Number of non-gaseous mines in operation, .....	14
Number of new mines opened, .....	
Number of old mines abandoned, .....	4

## TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
Pennsylvania Coal Company, .....	1,306,342
Delaware, Lackawanna and Western Railroad Company, .....	1,051,019
Jermyn and Company, .....	449,995
Hudson Coal Company, .....	147,241
Hillside Coal and Iron Company, .....	146,935
Lehigh Valley Coal Company, .....	20,661
Total, .....	<u>3,122,193</u>

## Production by Counties

Lackawanna, .....	2,288,202
Luzerne, .....	833,991
Total, .....	<u>3,122,193</u>

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Total	Outside	Inside	Total	Outside	Inside									
Pennsylvania Coal Co., .....	8	.....	8	4	.....	4	103,293	326,586	2,045	710	2,755	256	.....	511	.....
Delaware, Lackawanna and Western Railroad Co., .....	5	.....	5	18	.....	18	210,264	58,380	1,835	416	2,251	367	.....	102	.....
Fermyn and Co., .....	.....	.....	.....	11	.....	11	.....	40,909	685	200	885	.....	.....	62	.....
Hudson Coal Co., .....	1	.....	1	6	.....	6	137,241	24,540	251	84	335	251	.....	42	.....
Hillside Coal and Iron Co., .....	1	.....	1	2	.....	2	146,935	73,468	265	105	370	265	.....	133	.....
Miscellaneous Companies, .....	.....	.....	.....	.....	.....	.....	.....	.....	39	6	45	.....	.....	.....	.....
Totals and averages, .....	15	.....	41	41	.....	41	508,146	76,151	5,129	1,521	6,641	341	.....	125	.....

TABLE C.—Causes of Fatal Accidents Inside and Outside of Mines

[illegible]

TABLE D.—Causes of Non-Fatal Accidents Inside and Outside of Mines

[illegible]





TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months											
	Totals	December	November	October	September	August	July	June	May	April	March	February
Welsh. ....	1	1	1	1	1	1	1	1	1	1	1	1
Irish. ....	1	1	1	1	1	1	1	1	1	1	1	1
German. ....	1	1	1	1	1	1	1	1	1	1	1	1
Polish. ....	1	1	1	1	1	1	1	1	1	1	1	1
Italian. ....	1	1	1	1	1	1	1	1	1	1	1	1
Slavonian. ....	1	1	1	1	1	1	1	1	1	1	1	1
Austrian. ....	1	1	1	1	1	1	1	1	1	1	1	1
Russian. ....	1	1	1	1	1	1	1	1	1	1	1	1
Totals, .....	15	15	15	15	15	15	15	15	15	15	15	15

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months											
	Totals	December	November	October	September	August	July	June	May	April	March	February
American. ....	13	3	1	1	1	2	2	2	1	1	1	1
English. ....	1	1	1	1	1	1	1	1	1	1	1	1
Welsh. ....	1	1	1	1	1	1	1	1	1	1	1	1
Polish. ....	15	2	4	1	1	1	1	1	1	1	1	1
Italian. ....	7	1	1	1	1	1	1	1	1	1	1	1
Slavonian. ....	1	1	1	1	1	1	1	1	1	1	1	1
Lithuanian. ....	2	1	1	1	1	1	1	1	1	1	1	1
Russian. ....	1	1	1	1	1	1	1	1	1	1	1	1
Totals, .....	41	5	7	2	5	4	1	3	3	2	4	7



Jermyn and Co.														
Jermyn Colliery:														
Jermyn No. 1, .....	Shaft,....{	Gaseous,..	Fan, .....	14	4.5	4	90	1.1	Guibal, ....	Steam, ....	5	95,800	*	117,900
Jermyn No. 1, .....	Slope,....}	Gaseous,..	Fan, .....	18	4.3	6	90	1	Guibal, ....	Steam, ....	5	103,600	*	123,300
Jermyn No. 2, .....	Shaft,....{	Gaseous,..	Fan, .....	18	4.5	4	53	.8	Guibal, ....	Steam, ....	3	70,000	*	105,000
Jermyn No. 3, .....	Slope,....}	Gaseous,..	Fan, .....	10	4	3.2	84	.3	Guibal, ....	Steam, ....	1	21,900	*	28,000
Hudson Coal Co.														
Langcliffe Colliery:														
Langcliffe No. 1, .....	Shaft, .....	Non-gas, ..	Fan, .....	17	5	6	60	.4	Guibal, ....	Steam, ....	3	43,200	38,400	48,450
Langcliffe No. 1, .....	Slope, .....	Non-gas, ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Langcliffe No. 2, .....	Drift, .....	Non-gas, ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Langcliffe No. 3, .....	Drift, .....	Non-gas, ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Moosic, .....	Shaft, .....	Gaseous, ..	Fan, .....	10	.....	.....	90	.2	Guibal, ....	Steam, ....	2	34,500	31,250	40,375
Hillside Coal and Iron Co.														
Consolidated Colliery:														
Consolidated, .....	Slope, .....	Non-gas, ..	Fan, .....	14	4	4	85	.6	Guibal, ....	Steam, ....	3	33,300	34,100	53,700
Consolidated, .....	Drift, .....	Non-gas, ..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	1	7,500	*	9,575
Lehigh Valley Coal Co.														
Austin Colliery:														
Austin, .....	Drift, .....	Non-gas, ..	Fan, .....	8	3	2	120	.3	Guibal, ....	Electricity, ..	1	16,900	14,200	18,100
												88		
												24		
												30		

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Pennsylvania Coal Co. Old Forge, ..... Central, ..... Sibley, .....	Lackawanna, Luzerne, ..... Lackawanna,	Joseph P. Jennings, ..	Scranton, .....	{ Floyd Wilcox, ..... Patrick H. O'Brien, ..... Floyd Wilcox, ..... }	Moosic, Avoca, Moosic, .....	Erie
Delaware, Lackawanna and Western Railroad Co. Taylor, ..... Lyne, ..... Hawhead, ..... Taylor Washery, .....	Lackawanna, Lackawanna, Luzerne, ..... Lackawanna,	C. E. Toley, .....	Scranton, .....	{ David Lloyd, ..... T. J. Williams, ..... David Lloyd, ..... David Lloyd, ..... }	Scranton, .....	D. L. and W.
Jermyn and Co. Jermyn, ..... Hudson Coal Co. Langcliffe, .....	Lackawanna, .. Luzerne, .....	E. B. Jermyn, ..... { Charles Dorrance, Jr., ..... Outside, ..... E. R. Pettibone, In- side, ..... }	Scranton, Scranton, Dorrancton, .....	John P. Corcoran, ..... James W. Boyd, .....	Rendham, Scranton, .....	Erie Delaware and Hudson
Hillside Coal and Iron Co. Consolidated, ..... Lehigh Valley Coal Co. Austin, .....	Luzerne, ..... Lackawanna, ..	Joseph P. Jennings, .. F. M. Chase, .....	Scranton, ..... Wilkes-Barre, .....	John B. Jones, ..... Thomas Thomas, .....	Avoca, Wilkes-Barre, .....	Erie Lehigh Valley
Moosic Mountain Coal Co. Moosic,* .....	Lackawanna, ..	John F. Cotter, .....	Wyoming, .....	.....	.....	Erie

\*Idle.

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employees	Total production of coal in tons	Number of days worked	Number of employees	Number of fatal accidents	Number of non-fatal accidents	EXPLOSIVES			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Pennsylvania Coal Co.													
Old Forge, .....	Lackawanna, .....	682,738	60,107	.....	742,845	265	1,285	1	4	575,000	50	24,250	4
Central, .....	Luzerne, .....	341,312	33,715	142	375,169	556	756	1	.....	334,375	13,000	4,500	36
Sibley, .....	Lackawanna, .....	149,000	22,592	6,736	188,328	258	714	6	.....	340,625	135	55,225	57
Totals, .....	.....	1,173,050	126,414	6,878	1,306,342	.....	2,755	8	4	1,250,000	13,175	83,975	97
Delaware, Lackawanna and Western Railroad Co.													
Taylor, .....	Lackawanna, .....	458,955	16,958	8,398	482,541	295	904	5	4	418,300	10,337	105	25
Pyne, .....	Lackawanna, .....	358,263	18,769	1,992	378,961	218	862	.....	10	208,050	7,481	.....	73
Hadstead, .....	Luzerne, .....	139,734	23,179	2,733	164,646	228	473	.....	4	136,350	57,652	.....	.....
Taylor Washery, .....	Lackawanna, .....	956,252	57,903	12,993	1,027,148	.....	2,229	5	18	852,700	74,354	105	173
Totals, .....	.....	23,871	.....	.....	23,871	192	12	.....	.....	.....	.....	.....	.....
Jermyn and Co.													
Jermyn, .....	Lackawanna, .....	990,123	57,903	12,993	1,051,019	.....	2,251	5	18	852,700	74,354	105	173
Hudson Coal Co.													
Langcliffe, .....	Luzerne, .....	394,452	42,850	12,663	449,995	227	885	.....	11	387,500	6,380	.....	73
Totals, .....	.....	131,590	12,526	3,125	147,241	181	355	1	6	112,400	3,313	.....	68





TABLE 2.—Part 2  
Number and kinds of boilers and locomotives in use, number of steam engines, pumps, electric dynamos and air compressors in use, etc.

Names of Operators	County	Number of Boilers			Locomotives				Number of steam engines of all classes	Total horse power	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors			
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Gasoline	Steam							Air	Electric	
Pennsylvania Coal Co., .....	{ Lackawanna, } { Luzerne, ..... } { Lackawanna, ..... } { Luzerne, ..... } { Lackawanna, ..... }	.....	.....	47	6,250	6,250	.....	6	.....	41	72	6,590	17	24,200	12,900	3	
Delaware, Lackawanna and Western Railroad Co. ....		19	760	27	4,730	5,490	.....	1	.....	29	47	3,540	9	11,920	4,900	1	
Jermyn and Co., .....		.....	.....	4	2,000	2,000	.....	.....	.....	.....	.....	25	1,959	2	10,000	7,000	1
Hudson Coal Co., .....		.....	.....	9	1,110	1,110	.....	.....	.....	.....	.....	24	762	3	2,700	1,000	1
Hillside Coal and Iron Co., .....		.....	.....	.....	12	900	900	.....	2	.....	.....	14	850	2	1,000	500	1
Lehigh Valley Coal Co., .....	Lackawanna, ....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	500	450	.....	
Totals, .....	.....	19	760	99	14,970	15,730	.....	9	.....	70	184	13,733	34	49,620	26,750	6	

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside											Outside								Grand total	
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
Pennsylvania Coal Co., ...	{ Lackawanna, {	5	16	....	782	727	62	53	13	221	166	2,045	2	3	44	52	167	41	5	396	710	2,755
Delaware Lackawanna and Western Railroad Co.	{ Luzerne, ..... }	4	3	15	555	664	123	29	20	125	297	1,935	....	6	20	44	115	4	11	216	416	2,251
Jermyn and Co., .....	{ Lackawanna, }	2	2	14	243	248	40	27	7	102	....	685	2	1	11	18	35	32	7	94	200	885
Hudson Coal Co., .....	{ Luzerne, ..... }	1	1	1	76	119	33	....	2	16	9	251	....	1	7	15	12	10	2	37	84	335
Hillside Coal and Iron Co., .....	{ Luzerne, ..... }	1	1	....	118	96	20	3	....	2	24	265	1	1	6	10	28	2	....	57	105	370
Lehigh Valley Coal Co., .....	{ Lackawanna, }	1	....	....	12	12	5	....	1	8	....	39	....	....	2	....	....	....	....	4	6	45
Totals, .....	.....	14	23	30	1,786	1,866	283	112	43	474	489	5,120	5	12	90	139	357	89	25	804	1,521	6,641



TABLE 4.—Fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. March	26 David E. Davis, 5 James Talorico, .....	Welsh, .....	Miner, .....	59 .....	M. ....	1	1	Taylor, .....	Lackawanna,	Killed by fall of roof at face of chamber.
		Italian, .....	Miner, .....	50 .....	M. ....	1	3	Sibley, .....	Lackawanna,	Killed by explosion of blast at face of gangway.
April	11 Stanley Mirovca, .....	Polish, .....	Miner, .....	50 .....	M. ....	1	4	Sibley, .....	Lackawanna,	Killed by fall of roof on pillar work.
	6 Jessie Boresto, .....	Italian, .....	Miner, .....	32 .....	M. ....	1	1	Old Forge, .....	Lackawanna,	Killed by fall of roof at face of chamber.
May	28 John Collick, .....	Russian, .....	Laborer, .....	32 .....	M. ....	1	1	Taylor, .....	Lackawanna,	Killed by fall of roof at face of chamber.
	4 Alex Makosky, .....	Polish, .....	Miner, .....	50 .....	M. ....	1	3	Sibley, .....	Luzerne, .....	Killed by fall of roof on pillar work.
	19 John Kramer, .....	German, .....	Laborer, .....	28 .....	S. ....	1	1	Langcliffe, .....	Luzerne, .....	Killed by fall of roof on pillar work.
June	17 Frank Sargatsky, .....	Polish, .....	Laborer, .....	19 .....	S. ....	1	1	Sibley, .....	Lackawanna,	Killed by fall of roof on gangway.
July	31 George Corbridge, .....	Slavonian, .....	Miner, .....	29 .....	M. ....	1	1	Taylor, .....	Lackawanna,	Killed by fall of roof on pillar work.
Aug.	Andrew Lackak, .....	American, .....	Miner, .....	51 .....	M. ....	1	1	Consolidated, .....	Luzerne, .....	Killed by fall of roof on pillar work.
	Thomas Moravick, .....	Irish, .....	Miner, .....	33 .....	M. ....	1	1	Taylor, .....	Lackawanna,	Fatally injured by mining machine at face of chamber.
	17 Joseph Moravick, .....	Russian, .....	Machine runner	33 .....	S. ....	1	1	Sibley, .....	Lackawanna,	Fatally burned by explosion of powder that he was carrying in chamber.
Sept.	27 John Pasco, .....	Polish, .....	Miner, .....	32 .....	M. ....	1	1	Taylor, .....	Lackawanna,	Killed by fall of roof at face of chamber.
	8 Andrew Zalouagecky, ..	Slavonian, ..	Miner, .....	32 .....	M. ....	1	1	Central, .....	Luzerne, .....	Killed by fall of roof on pillar work.
	23 Henry Kayschenski, ..	Polish, .....	Miner, .....	32 .....	M. ....	1	1	Central, .....	Luzerne, .....	Killed by fall of roof on pillar work.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 15	Robert Buyak, .....	Polish, .....	Driver, .....	13	S.	Langeliffe, .....	Luzerne, .....	Ribs fractured between cars and roof on plane.
Feb. 7	John Moscow, .....	Polish, .....	Company man, .....	52	M.	Taylor, .....	Lackawanna, .....	Leg fractured by cars in chamber.
10	Joseph Whitehouse, .....	American, .....	Brakeman, .....	19	S.	Pyne, .....	Lackawanna, .....	Thigh fractured by cars on gangway.
12	Alexander Cliftcock, ..	Polish, .....	Miner, .....	22	S.	Consolidated, .....	Luzerne, .....	Leg fractured by explosion of blast at face of chamber.
13	Toney Venauzie, ....	Italian, .....	Laborer, .....	21	S.	Jermyn, .....	Lackawanna, .....	Arm fractured by fall of roof at face of chamber.
19	Joseph Falbo, .....	Italian, .....	Miner, .....	42	M.	Jermyn, .....	Lackawanna, .....	Head bruised by explosion of blast at face of chamber.
	James Bridge, .....	Italian, .....	Laborer, .....	21	S.	Jermyn, .....	Lackawanna, .....	Head bruised by explosion of blast at face of chamber.
23	Phillip Zellman, .....	Russian, .....	Miner, .....	42	M.	Jermyn, .....	Lackawanna, .....	Leg fractured by fall of roof at face of chamber.
March 16	Mike Risk, .....	Polish, .....	Laborer, .....	30	M.	Taylor, .....	Lackawanna, .....	Leg fractured by piece of rock that slid from goaf in chamber.
	George Cresuico, .....	Slovakian, ..	Laborer, .....	31	M.	Consolidated, .....	Luzerne, .....	Leg fractured by fall of roof at face of chamber.
26	John Owens, .....	Welsh, .....	Mason, .....	45	M.	Halstead, .....	Luzerne, .....	Arm fractured by explosion of blast at face of chamber.
29	John Joyce, .....	American, ..	Brakeman, .....	21	S.	Old Forge, .....	Lackawanna, .....	Leg fractured by cars on gangway.
April 13	John Muzarick, .....	Polish, .....	Miner, .....	33	S.	Halstead, .....	Luzerne, .....	Head bruised by explosion of blast at face of chamber.
16	John Lee, .....	American, ..	Driver, .....	26	S.	Jermyn, .....	Lackawanna, .....	Finger cut off by cars on gangway.
1	William Legge, .....	American, ..	Brakeman, .....	19	S.	Old Forge, .....	Lackawanna, .....	Thigh and arm fractured by fall of roof at face of chamber.
11	Albert Kosko, .....	Polish, .....	Miner, .....	46	M.	Langeliffe, .....	Luzerne, .....	Leg fractured by fall of roof at face of chamber.
17	Alx VonBerget, .....	American, ..	Miner, .....	45	S.	Pyne, .....	Lackawanna, .....	Leg fractured by fall of roof at face of chamber.
July 15	John Coval, .....	Polish, .....	Miner, .....	26	S.	Langeliffe, .....	Luzerne, .....	Leg fractured by fall of coal at face of chamber.
Aug. 9	Christy Gnozz, .....	Italian, .....	Brakeman, .....	13	S.	Jermyn, .....	Lackawanna, .....	Rib fractured by being struck by rope on gangway.
11	George Bollinsky, .....	American, ..	Driver, .....	18	S.	Halstead, .....	Luzerne, .....	Arm fractured by cars on gangway.
21	Frank Delaney, .....	American, ..	Company man, .....	48	M.	Halstead, .....	Luzerne, .....	Leg fractured by being struck by rope on slope.





## CONDITION OF COLLIERIES

## PENNSYLVANIA COAL COMPANY

Old Forge, Central and Sibley Collieries.—Ventilation, drainage and condition as to safety, good. Pillars are being mined.

## DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Taylor and Pyne Collieries.—Ventilation, drainage and condition as to safety, good. Pillars are being mined.

Halstead Colliery.—Ventilation, drainage and condition as to safety, fair. Pillars are being mined.

## JERMYN AND COMPANY

Jermyn Colliery.—Ventilation, drainage and condition as to safety, good. Mining pillars extensively.

## HUDSON COAL COMPANY

Langcliffe Colliery.—Ventilation, drainage and condition as to safety, good. Pillars are being mined.

## HILLSIDE COAL AND IRON COMPANY

Consolidated Colliery.—Ventilation, drainage and condition as to safety, good. Mining pillars.

## LEHIGH VALLEY COAL COMPANY

Austin Colliery.—Ventilation, drainage and condition as to safety, good. Mining pillars exclusively.

## MOOSIC COAL COMPANY

Moosic Colliery.—Idle the entire year.

## IMPROVEMENTS

## PENNSYLVANIA COAL COMPANY

Old Forge Colliery.—Two mixed pressure turbines were installed in Old Forge power house to provide additional electrical power.

A slope was sunk from surface to Clark vein near Old Forge No. 2 shaft, and engines etc., were installed in order to facilitate transportation.

Central Colliery.—A rock tunnel was driven from the top split of the Red Ash vein to the top split of the Red Ash vein in Law shaft.

## DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Halstead Colliery.—Slope was driven from surface to Marcy vein for haulage purposes. Open Marcy vein to increase output. Made second opening to Marcy vein for ventilating purposes. Recribbed Feeder Dam shaft.

## JERMYN AND COMPANY

Jermyn Colliery.—Sunk No. 3 shaft from No. 2 Dunmore vein to No. 3 Dunmore vein. A drift was driven from surface to bottom split of the big vein. An electric pump was installed in the second Dunmore vein.

Outside: An air compressor was installed near No. 3 shaft.

## HUDSON COAL COMPANY

Langcliffe Colliery.—Outside: Breaker was remodeled to a considerable extent.

## HILLSIDE COAL AND IRON COMPANY

Consolidated Colliery.—An air shaft was sunk from the surface to the top split of the Stark vein at Consolidated drift. This shaft also provides a second opening.

## MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in the High School, Old Forge, May 18 and 19. The Board of Examiners was composed of Augustus McDade, Inspector, Rendham; David Lloyd, Superintendent, Scranton; Morgan E. Griffiths, Miner, Taylor; Michael Cosgrove, Miner, Old Forge.

The following persons passed a satisfactory examination and were granted certificates:

## MINE FOREMEN

John N. Cooke, James McGinley, William C. Riddle, Bernard Boyle, David E. Davis, John J. Boyle, Thomas Phillips, John Rohland, John Digwood, William W. Powell, James Walsh, Louis Tedesco, William G. Gwyn, Old Forge; John Scriven, John Withey, William W. Jones, Gounod Evans, Thomas V. Reynolds, Grover Perry, Martin Carroll, Thomas H. Griffiths, Thomas W. Jones, Daniel Hayes, David J. Thomas, John J. Jarret, Enoch Williams, Charles J. Powell, Alex. G. Law, David Moses, William H. Powell, David E. Harris, Robert J. Jacobs, Thomas G. Townsend, George E. Williams, William G. Lewis, Peter E. Partington, Benjamin Sweetman, Thomas Daniels, George S. Goodwin, Taylor; James Kelley, John W. Clifford, Cornelius McLaughlin, Avoca; William Creeden, Frank Baxter, James Baxter, John M. Reid, Moosic; Michael Joseph, Cosgrove; Martin Durkin, John E. Jones, Barney O'Boyle, William Richards, Thomas Wylam, Rendham; Theodore P. Hartman, Charles Cooksey, John M.

O'Boyle, Michael J. Gilroy, Thomas B. Roberts, David J. Powell, Scranton; William T. Davis, Dorranceton; Robert A. Evans, West Pittston.

#### ASSISTANT MINE FOREMEN

Hugh Dove, Frank Pointon, William J. Fallon, John J. Davis, Patrick F. Fallon, Lawrence Walsh, Old Forge; Walter George Tibbs, Rendham; William Edwards, Scranton; Fred. Kramer, Duryea.



## SIXTH DISTRICT

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### LUZERNE COUNTY

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Pittston, Pa., February 15, 1916.

Hon. James E. Roderick, Chief of Department of Mines:

Sir:—I have the honor to transmit herewith my report as Inspector of Mines for the Sixth Anthracite District for the year ending December 31, 1915.

Respectfully submitted.

H. McDONALD,

Inspector.

## SUMMARY OF STATISTICS

Number of collieries, .....	16
Number of mines, .....	47
Number of mines in operation, .....	47
Number of tons of coal shipped to market, .....	4,814,548
Number of tons used at mines for steam and heat, ....	453,112
Number of tons sold to local trade and used by employes,	57,707
Number of tons produced, .....	5,325 367
Number of tons produced by compressed air machines, ..	.....
Number of tons produced by electrical machines, .....	.....
Number of persons employed inside of mines, .....	9,922
Number of persons employed outside, .....	2,600
Number of fatal accidents inside of mines, .....	45
Number of fatal accidents outside, .....	3
Number of non-fatal accidents inside of mines, .....	66
Number of non-fatal accidents outside, .....	10
Number of tons of coal produced per fatal accident inside,	118,341
Number of tons produced per fatal accident outside, ..	1,775.122
Number of tons produced per fatal accident inside and outside, .....	110,946
Number of persons employed per fatal accident inside, ..	221
Number of persons employed per fatal accident outside,	867
Number of persons employed per fatal accident inside and outside, .....	261
Number of persons employed per non-fatal accident inside,	150
Number of persons employed per non-fatal accident out- side, .....	260
Number of persons employed per non-fatal accident inside and outside, .....	165
Number of wives made widows, .....	31
Number of children made orphans, .....	87
Number of steam locomotives used inside of mines, ....	.....
Number of steam locomotives used outside, .....	23
Number of compressed air locomotives used inside, ....	.....
Number of compressed air locomotives used outside, ....	11
Number of electric motors used inside, .....	99
Number of electric motors used outside, .....	1
Number of gasoline locomotives used inside, .....	.....
Number of fans in use, .....	41
Number of furnaces in use, .....	.....
Number of gaseous mines in operation, .....	22
Number of non-gaseous mines in operation, .....	25
Number of new mines opened, .....	.....
Number of old mines abandoned, .....	.....



## TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
Pennsylvania Coal Company, .....	2,685,585
Delaware and Hudson Company, .....	1,014,589
Hillside Coal and Iron Company, .....	664,524
Lehigh Valley Coal Company, .....	530,059
Traders Coal Company, .....	197,535
Wilkes-Barre Colliery Company, .....	150,196
Conlon Coal Company, .....	49,581
Central Coal Company, .....	29,812
McCauley Coal Company, .....	3,486
Total, .....	<u><u>5,325,367</u></u>

## Production by Counties

Luzerne, .....	<u><u>5,325,367</u></u>
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TABLE C.—Causes of Fatal Accidents Inside and Outside of Mines

	Months												Percentages	
	January	February	March	April	May	June	July	August	September	October	November	December		Totals
Inside														
Falls of coal, .....	1	...	1	1	...	...	...	...	...	...	1	4	8.89	
Falls of roof, .....	3	2	2	2	2	2	...	2	...	1	2	1	20	41.45
Mine cars, .....	1	2	...	2	...	...	...	...	1	...	...	2	9	20.00
Explosions of powder and dynamite, .....	...	1	7	...	...	...	...	1	...	...	...	...	12	4.41
Blasts, premature and otherwise, .....	1	...	...	1	2	1	...	1	...	3	...	1	10	22.22
Totals, .....	6	5	3	7	5	3	...	4	1	4	2	5	45	100.00
Outside														
Cars, .....	...	...	...	...	...	...	...	...	1	1	...	...	2	66.67
Smothered by sand, ..	...	...	...	...	...	...	...	...	1	...	...	...	1	33.33
Totals, .....	...	...	...	...	...	...	...	...	2	1	...	...	3	100.00
Grand totals inside and outside, .....	6	5	3	7	5	3	...	4	3	5	2	5	48	...

TABLE D.—Causes of Non-Fatal Accidents Inside and Outside of Mines

	Months												Totals	Percentages
	January	February	March	April	May	June	July	August	September	October	November	December		
<b>Inside</b>														
Falls of coal, .....	...	...	...	...	2	1	3	1	3	...	2	2	12	3.03
Falls of roof, .....	...	...	1	...	...	1	...	1	...	1	2	2	17	25.76
Mine cars, .....	1	3	1	3	1	1	3	2	2	1	1	1	20	20.39
Explosions of gas, ....	2	...	...	2	1	...	...	1	...	...	...	2	10	15.15
Explosions of powder and dynamite, .....	...	1	...	...	1	1	...	1	...	...	...	...	4	6.06
Blasts premature and otherwise, .....	...	1	3	...	1	1	...	...	2	...	1	2	11	16.67
Struck by rope, .....	...	...	...	...	...	1	...	...	...	...	...	...	1	1.52
Struck by piece of rock	...	...	1	...	...	...	...	...	...	...	...	...	1	1.51
<b>Totals, .....</b>	<b>3</b>	<b>7</b>	<b>6</b>	<b>5</b>	<b>6</b>	<b>3</b>	<b>6</b>	<b>5</b>	<b>7</b>	<b>2</b>	<b>4</b>	<b>10</b>	<b>66</b>	<b>100.00</b>
<b>Outside</b>														
Cars, .....	1	1	...	...	1	...	...	...	1	...	...	...	4	40.00
Machinery, .....	...	...	...	1	...	...	...	...	...	...	...	...	1	10.00
Falling, .....	...	...	...	...	1	...	...	...	...	...	...	1	2	20.00
Struck by wagon, .....	...	...	...	...	1	...	...	...	...	...	...	...	1	10.00
Mules, .....	...	...	...	...	...	...	...	...	1	...	...	...	1	10.00
Struck by rope, .....	...	1	...	...	...	...	...	...	...	...	...	...	1	10.00
<b>Totals, .....</b>	<b>1</b>	<b>2</b>	...	<b>1</b>	<b>3</b>	...	...	...	<b>2</b>	...	...	<b>1</b>	<b>10</b>	<b>100.00</b>
<b>Grand totals inside and outside, .....</b>	<b>4</b>	<b>9</b>	<b>6</b>	<b>6</b>	<b>9</b>	<b>3</b>	<b>6</b>	<b>5</b>	<b>9</b>	<b>2</b>	<b>4</b>	<b>11</b>	<b>76</b>	...

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
Inside													
Miners, .....	5	2	1	5	4	3	....	4	....	2	2	3	31
Miners' laborers, .....	....	1	2	1	1	....	....	1	....	2	....	1	9
Drivers and runners, .....	1	2	....	....	....	....	....	....	....	....	....	....	3
Doormen, .....	....	....	....	1	....	....	....	....	....	....	....	....	1
Motormen, .....	....	....	....	....	....	....	....	....	....	....	....	1	1
Totals, .....	6	5	3	7	5	3	....	4	1	4	2	5	45
Outside													
Drivers, .....	....	....	....	....	....	....	....	....	....	1	....	....	1
Laborers, .....	....	....	....	....	....	....	....	....	1	....	....	....	1
Headmen, .....	....	....	....	....	....	....	....	....	1	....	....	....	1
Totals, .....	....	....	....	....	....	....	....	....	2	1	....	....	3
Grand totals inside and outside, .....	6	5	3	7	5	3	....	4	3	5	2	5	48

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
Inside													
Assistant mine foremen, .....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Fire bosses and assistants, .....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Miners, .....	1	2	5	1	.....	3	3	1	5	1	3	5	31
Miners' laborers, .....	.....	4	1	2	4	1	1	3	.....	1	.....	5	22
Drivers and runners, .....	.....	.....	.....	.....	.....	.....	2	.....	1	.....	.....	.....	3
Doorboys and helpers, .....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Motormen, .....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	1	.....	2
Rockmen, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Footmen, .....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Engineers, .....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	2
Totals, .....	3	7	6	5	6	5	6	5	7	2	4	10	66
Outside													
Teamsters, .....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Slatepickers (boys), .....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	1	3
Engineers, .....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Headmen, .....	1	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	2
Laborers, .....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	3
Totals, .....	1	2	.....	1	3	.....	.....	.....	2	.....	.....	1	10
Grand totals inside and outside, .....	4	9	6	6	9	5	6	5	9	2	4	11	76

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months											
	Totals	December	November	October	September	August	July	June	May	April	March	February
American, .....	1	...	...	...	...	...	...	...	...	...	1	...
English, .....	3	1	...	...	...	...	...	...	1	...	...	1
Welsh, .....	1	...	...	...	...	...	...	...	...	1	...	...
Irish, .....	3	...	...	...	1	...	...	...	1	...	...	...
German, .....	3	...	1	...	...	...	...	...	2	...	...	...
Polish, .....	20	3	1	3	...	4	...	2	2	2	2	1
Italian, .....	7	1	...	...	1	...	...	...	...	...	...	1
Slavonian, .....	1	...	...	...	...	...	...	...	1	...	...	...
Lithuanian, .....	5	...	...	...	...	...	...	...	...	1	1	...
Austrian, .....	2	...	...	...	...	...	...	1	...	...	...	...
Russian, .....	2	...	...	...	1	...	...	...	...	...	...	1
Totals, .....	48	5	2	5	2	4	...	3	5	7	3	5

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months											
	Totals	December	November	October	September	August	July	June	May	April	March	February
American, .....	16	...	...	...	3	1	...	2	3	...	1	3
Irish, .....	2	...	...	...	...	...	...	...	1	...	1	...
German, .....	3	...	...	...	1	...	1	...	1	...	...	...
Polish, .....	20	4	3	1	...	3	1	1	1	1	3	...
Italian, .....	13	5	...	...	1	...	...	1	1	3	1	...
Slavonian, .....	4	...	...	...	...	...	...	...	1	1	...	...
Lithuanian, .....	10	1	...	...	3	1	1	...	...	...	1	...
Austrian, .....	4	1	...	...	1	...	...	1	...	2	...	...
Russian, .....	4	...	...	1	...	...	...	...	...	...	...	...
Totals, .....	76	11	4	2	9	5	6	5	9	6	6	9

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gascons or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Pennsylvania Coal Co. Barnum Colliery: Barnum No. 2.	Shaft, ....	Gaseous, ..	2 Fans, {	20	6.6	5.5	60	.8	{ Guibal, ...	Steam, ....	..	10	157,960	135,350	179,300	390
	Shaft, ..	Gaseous, ..	{ Fan, ...	20	6.6	5.5	60	.8	{ Guibal, ...	Steam, ....	..	5	94,620	77,630	100,000	214
	Shaft, ..		{ Fan, ...	20	6.6	5.5	60	1.0		Steam, ....	..	4	55,600	42,850	68,800	146
	Shaft, ..		{ Fan, ...	20	6.6	5.5	52	1.1		Steam, ....	..	7	110,300	122,200	161,800	232
	Shaft, ..		{ Fan, ...	20	6.6	5.5	62	1.0		Steam, ....	..	9	125,000	93,700	133,100	258
	Slope, ...		{ Fan, ...	10.2	4.5	2.8	72	.5		Electricity, ..	..	2	32,800	24,700	36,600	29
	Shaft, ..	Gaseous, ..	{ Fan, ...	20	6.6	5.5	68	1.1	{ Guibal, ...	Steam, ...	..	7	119,398	117,693	120,537	343
	Shaft, ..		{ Fan, ...	20	6.6	5.5	64	1.0			..	10	111,630	100,243	121,230	315
	Shaft, ..		{ Fan, ...	20	6.6	5.5	64	1.1			..	3	37,200	62,800	75,000	191
	Slope, ...		{ Fan, ...	20	6.6	5.5	66	.5			..	..	..	35,200	35,600	441
	Shaft, ..	Gaseous, ..	3 Fans, ...	20	6.6	5.5	72	1.3	{ Guibal, ...	Steam, ....	..	10	212,442	143,360	224,940	505
	Drift, ....		{ 2 Fans, ...	17	5.0	4.0	70	.8			..	11	148,121	130,248	180,594	435
	Shaft, ..		{ Fan, ...	20	6.6	5.5	65	.8			..	..	..	..	..	..
	Slope, ...		{ Fan, ...	20	6.6	5.5	64	.9			..	4	116,435	106,200	125,430	227
Number 9 Colliery: Number 1, Number 5, Number 6, Number 11, Wright.	Shaft, ..	Gaseous, ..	{ Fan, ...	20	6.6	5.5	68	1.1	{ Guibal, ...	Steam, ...	..	7	119,398	117,693	120,537	343
	Shaft, ..		{ Fan, ...	20	6.6	5.5	64	1.0			..	10	111,630	100,243	121,230	315
	Shaft, ..		{ Fan, ...	20	6.6	5.5	64	1.1			..	3	37,200	62,800	75,000	191
	Slope, ...		{ Fan, ...	20	6.6	5.5	66	.5			..	..	..	35,200	35,600	441
	Shaft, ..	Gaseous, ..	3 Fans, ...	20	6.6	5.5	72	1.3	{ Guibal, ...	Steam, ....	..	10	212,442	143,360	224,940	505
	Drift, ....		{ 2 Fans, ...	17	5.0	4.0	70	.8			..	11	148,121	130,248	180,594	435
	Shaft, ..		{ Fan, ...	20	6.6	5.5	65	.8			..	..	..	..	..	..
	Slope, ...		{ Fan, ...	20	6.6	5.5	64	.9			..	4	116,435	106,200	125,430	227
	Shaft, ..	Gaseous, ..	{ Fan, ...	20	6.6	5.5	68	1.1	{ Guibal, ...	Steam, ...	..	7	119,398	117,693	120,537	343
	Shaft, ..		{ Fan, ...	20	6.6	5.5	64	1.0			..	10	111,630	100,243	121,230	315
	Shaft, ..		{ Fan, ...	20	6.6	5.5	64	1.1			..	3	37,200	62,800	75,000	191
	Slope, ...		{ Fan, ...	20	6.6	5.5	66	.5			..	..	..	35,200	35,600	441
Number 14 Colliery: Number 14, Number 14, Cortright, Diamond I.	Shaft, ..	Gaseous, ..	{ Fan, ...	20	6.6	5.5	68	1.1	{ Guibal, ...	Steam, ...	..	7	119,398	117,693	120,537	343
	Shaft, ..		{ Fan, ...	20	6.6	5.5	64	1.0			..	10	111,630	100,243	121,230	315
	Shaft, ..		{ Fan, ...	20	6.6	5.5	64	1.1			..	3	37,200	62,800	75,000	191
	Slope, ...		{ Fan, ...	20	6.6	5.5	66	.5			..	..	..	35,200	35,600	441
	Shaft, ..	Gaseous, ..	3 Fans, ...	20	6.6	5.5	72	1.3	{ Guibal, ...	Steam, ....	..	10	212,442	143,360	224,940	505
	Drift, ....		{ 2 Fans, ...	17	5.0	4.0	70	.8			..	11	148,121	130,248	180,594	435
	Shaft, ..		{ Fan, ...	20	6.6	5.5	65	.8			..	..	..	..	..	..
	Slope, ...		{ Fan, ...	20	6.6	5.5	64	.9			..	4	116,435	106,200	125,430	227
	Shaft, ..	Gaseous, ..	{ Fan, ...	20	6.6	5.5	68	1.1	{ Guibal, ...	Steam, ...	..	7	119,398	117,693	120,537	343
	Shaft, ..		{ Fan, ...	20	6.6	5.5	64	1.0			..	10	111,630	100,243	121,230	315
	Shaft, ..		{ Fan, ...	20	6.6	5.5	64	1.1			..	3	37,200	62,800	75,000	191
	Slope, ...		{ Fan, ...	20	6.6	5.5	66	.5			..	..	..	35,200	35,600	441



Ewen Colliery, Doyt, .....	Shaft, ...	Gaseous, ..	2 Fans, ..	14.0	6.0	4.6	75	1.5	Guibal, ...	Steam, ....	10	132,200	110,000	167,000	105
Delaware and Hudson Co. Lafin Colliery: Lafin, .....	Shaft, ... Tunnel, ...	Non-gas., .. Non-gas., ..	Fan, .. Fan, ..	20.0 14.0	5 4	5 3.6	75 85	1.7 1.2	Guibal, Guibal, ...	Steam, .... Steam, ....	6 3	113,805 55,980	97,065 49,610	128,970 64,020	310 134
Delaware Colliery: Bennett, .....	Shaft, ...	Gaseous, ..	Fan, ..	22.5	6.6	5.6	60	1.7	Guibal, ...	Steam, ... }	9	181,257	141,765	217,738	284
Red Ash, .....	Shaft, ...	Gaseous, ..	Fan, ..	20.0	7	5.6	80	1.3	Jeffrey, ...	Steam, ... }					
Waddells, .....	Shaft, ...	Gaseous, ..	Fan, ..	22.5	6.6	5.6	60	1.7	Guibal, ...	Steam, ... }					
Pine Ridge Colliery: Pine Ridge, .....	Shaft, ...	Gaseous, ..	Fan, ..	28	8	7.75	58	2.2	Guibal, ...	Steam, ....	10	258,700	151,400	273,700	570
Laurel Run, .....	Shaft, ...	Gaseous, ..	Fan, ..	28	8	7.75	56	2.11	Guibal, ...	Steam, ....	6	108,890	76,270	112,660	465
Hillside Coal and Iron Co. Butler Colliery: Butler, .....	Slope, ... Shaft, ...	Non-gas., .. Non-gas., ..	Fan, .. 2 Fans, ..	20.0 15.0 14.0	6.5 4.0 6.0	5.5 4.0 4.6	50 100 94	.8 .9 2.0	Guibal, Guibal, ... Guibal, ...	Steam, .... Electricity, ... Steam, ... }	6 12 5	61,775 258,300 72,600	56,200 231,500 49,700	64,225 290,740 81,000	122 101 139
Fernwood, .....	Slope, ...	Non-gas., ..	Fan, ..	20.0	6.6	5.5	50	.8	Guibal, ...	Electricity, ...					
Lehigh Valley Coal Co. Mineral Spring Colliery: Red Ash, .....	Shaft, ...	Gaseous, ..	Fan, ..	20.0	6.6	5.6	60	1.1	Guibal, ...	Steam, ....	7	117,000	115,400	153,000	275
Baltimore, .....	Slope, ...	Gaseous, ..	Fan, ..	12.0	4.0	3.6	100	.8	Guibal, ...	Steam, ....	1	28,000	23,600	28,700	17
Number 34, .....	Tunnel, ...	Non-gas., ..	Natural, ..												32
Heddelberg No. 1 Colliery: Marcy, .....	Slope, ...	Non-gas., ..	{ Fan, ... }	10	4	4	144	.8	Guibal, ...	Steam, ....	2	43,502	40,700	52,754	52
Clark, .....	Slope, ...	Non-gas., ..	{ Fan, ... }	12.9	3.8	3.4	80	.6	Guibal, ...	Steam, ....	1	25,590	26,568	38,180	36
Red Ash, .....	Slope, ...	Non-gas., ..	{ Fan, ... }	15	4	2.6	80	.6	Guibal, ...	Steam, ....	2	53,719	49,731	55,565	150
Number 2, .....	Shaft, ...	Non-gas., ..	{ Fan, ... }	20	5.8	5	60	.4	Guibal, ...	Steam, ....	2	16,300	23,100	41,100	127
Number 3, .....	Drift, ...	Non-gas., ..	{ Natural, ... }							Steam, ....	1	16,300	10,300	16,700	28
Pittston No. 2, .....	Drift, ...	Non-gas., ..	{ Natural, ... }							Steam, ....	1	12,000	10,100	12,500	26
Traders Coal Co. Ridgewood Colliery: Ridgewood, .....	{ 3 Slopes, ... 8 Slopes, ... 2 Drifts, ... }	Non-gas., .. Non-gas., ..	Fan, ... }	16	4	5	75	.8	Guibal, ...	Steam, ....	4	66,500	62,000	70,000	304
Wilkes-Barre Colliery Co. Madera Colliery: Madera No. 1, .....	Slope, ...	Non-gas., ..	Fan, ...	12	5.0	4.10	65	.6	Jeffrey, ...	Electricity, ...	3	77,000	62,500	77,540	300
Madera No. 1, .....	Drift, ...	Non-gas., ..	Natural, ..								1				
Conlon Coal Co. Conlon Colliery: Conlon, .....	Slope, ...	Non-gas., ..	Natural, ..								1	90,000	90,000	90,000	74

TABLE I.—Continued

Names of Operators and Mines	Number of persons employed inside	65 20 4	20
	Number of cubic feet of air per minute passing out at outlet	{ 20,000	7,610
	Total number of cubic feet of air per minute circulating in all the splits	16,000	4,600
	Number of cubic feet of air per minute entering the mine at inlet	16,000	5,690
	Number of splits of air currents	1	1
	Area of furnace bars in square feet	{	..
	Power used	Electricity..	.....
	Name of fan	American Blower.	.....
	Water gauge developed—in inches	.....	.....
	Number of revolutions per minute	90	.....
	Depth of blades in feet and inches	1.6	.....
	Width of blades in feet and inches	2.4	.....
	Diameter of fan in feet and inches	6	.....
	Method of ventilation	Natural, Fan, ... Natural,	Natural, ..
	Gaseous or non-gaseous	Non-gas., .. Non-gas., .. Non-gas., ..	Non-gas., ..
	Kind of opening	{ 2 Slopes, Tunnel, Drift, ... {	Orift, .....
Central Coal Co. Wyoming Colliery: Wyoming, ..... McCauley Coal Co. Pickaway Colliery: Pickaway, .....			

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Pennsylvania Coal Co. Barium, ..... Number 9, ..... Numbers 6 and 14, ..... Even, .....	Luzerne, .....	William P. Jennings,	Scranton, .....	{ A. E. Yetter, ..... A. E. Yetter, ..... David Girvan, ..... David Girvan, ..... }	Pittston, ..... Pittston, ..... Pittston, ..... Pittston, .....	Erie
Delaware and Hudson Co. Ladlin, ..... Delaware, ..... Pine Ridge, ..... Butler, .....	Luzerne, .....	E. R. Pettebone, ....	Dorrancton, .....	Charles Dorrance, Jr., .....	Scranton, .....	Delaware and Hudson
Hillside Coal and Iron Co. Butler, .....	Luzerne, .....	William P. Jennings,	Scranton, .....	A. E. Yetter, .....	Pittston, .....	Erie
Lehigh Valley Coal Co. Mineral Spring, ..... Heidelberg No. 1, .....	Luzerne, .....	Thomas Thomas, ...	Wilkes-Barre, .....	{ J. H. Haertter, ..... W. D. Owens, ..... }	Wilkes-Barre, ..... Pittston, .....	Lehigh Valley
Traders Coal Co. Ridge wood, .....	Luzerne, .....	E. B. Jermyn, .....	Scranton, .....	J. P. Corcoran, ....	Old Forge, .....	Erie and C. R. R. of N. J.
Wilkes-Barre Colliery Co. Madeira, .....	Luzerne, .....	W. G. Thomas, ....	Pottsville, .....	W. Gordon Thomas, ...	Parsons, .....	Delaware and Hudson
Conlon Coal Co. Conlon, .....	Luzerne, .....	John Conlon, .....	Hudson, .....	William Hilbert, ....	Plains, .....	Delaware and Hudson
Central Coal Co. Wyoming, .....	Luzerne, .....	Joseph G. Saricks, ..	Freeland, .....	John G. Saricks, ...	Hudson, .....	Delaware and Hudson
McCauley Coal Co. Pickaway, .....	Luzerne, .....	W. H. McCauley, ..	Pittston, .....	John Carden, .....	Pittston, .....	Lehigh Valley

TABLE 2.—Number of tons of coal mined, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Pennsylvania Coal Co.													
Barnum, 9, .....	Luzerne, ....	211,212	24,395	2,673	238,281	225	527	4	3	157,500	3,700	7,300	23
Number 9, .....		716,275	74,509	6,479	797,263	270	1,681	7	6	67,500	24,575	19,500	135
Number 6, .....		561,425	56,913	12,399	630,817	245	1,705	3	7	862,500	1,150	65,000	151
Number 14, .....		{ 894,739 }	111,288	3,197	1,019,224	564	{ 2,228 }	10	8	1,221,875	29,400	27,300	297
Even, .....					....	{ 147 }	6		.....	.....	.....	2	
Totals, .....		2,393,652	267,185	24,748	2,685,585	....	6,298	24	30	2,879,375	49,825	119,100	594
Delaware and Hudson Co.													
Lafin, .....	Luzerne, ....	168,048	21,914	898	190,860	197	579	4	9	285,230	62,063	.....	80
Delaware, .....		307,270	29,715	7,093	344,078	272	812	2	5	433,000	17,090	.....	67
Time Ridge, .....		465,082	11,769	2,210	479,661	216	1,252	8	14	653,100	22,063	50	77
Totals, .....		941,000	63,338	10,201	1,014,589	....	2,623	14	28	1,374,330	101,715	50	224
Hillsdale Coal and Iron Co.													
Butler, .....	Luzerne, ....	613,310	43,876	7,338	664,524	267	1,584	3	8	672,500	18,850	41,700	102
Lehigh Valley Coal Co.													
Mineral Spring, .....	Luzerne, ....	215,313	24,514	7,673	247,500	213	445	3	.....	112,975	89,470	.....	67
Heidelberg No. 1, .....		246,923	32,409	2,227	282,569	221	549	2	1	234,350	56,475	.....	90
Totals, .....		462,236	57,923	9,900	530,069	....	994	5	1	397,325	115,945	.....	163

Ridgewood, .....	Luzerne, .....	182,222	14,600	712	197,535	248	491	1	.....	248,575	6,200	.....	47
Traders Coal Co.													
Madera, .....	Luzerne, .....	145,038	2,855	2,302	150,196	282	306	1	8	176,875	3,700	.....	16
Wilkes-Barre Colliery Co.													
Conlon, .....	Luzerne, .....	47,331	.....	2,350	49,581	296	85	.....	1	17,500	400	.....	6
Conlon Coal Co.													
Wyoming, .....	Luzerne, .....	26,393	3,165	954	29,812	227	110	.....	.....	31,400	8,450	.....	3
Central Coal Co.													
Pickaway, .....	Luzerne, .....	3,366	120	.....	3,486	65	31	.....	.....	7,500	625	.....	5
McCauley Coal Co.													
Grand totals, .....		4,814,548	453,112	57,707	5,325,367	.....	12,522	48	76	5,775,350	266,760	161,450	1,169

TABLE 2.—Part 2  
Number and kinds of boilers and locomotives in use, number of steam engines, pumps, electric dynamos and air compressors in use, etc.

Names of Operators	County	Number of Boilers				Locomotives				Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Gasoline	Steam	Air	Electric						
Pennsylvania Coal Co., .....	Luzerne,	108	15,878	.....	15,878	.....	13	2	11	47	14,010	22	32,640	16,730	6	19
Delaware and Hudson Co., .....		30	6,613	.....	6,613	.....	2	.....	.....	24	8,365	9	13,400	6,200	2	7
Hillside Coal and Iron Co., .....		24	3,460	.....	3,460	.....	5	.....	.....	168	3,390	6	4,000	1,700	5	1
Lehigh Valley Coal Co., .....		16	2,950	.....	2,950	.....	2	.....	.....	33	4,411	8	6,197	4,977	.....	.....
Traders Coal Co., .....		2	800	.....	800	.....	1	.....	.....	47	1,200	2	500	1,000	.....	.....
Wilkes-Barre Colliery Co., .....		.....	.....	.....	.....	.....	.....	2	.....	10	.....	.....	800	330	1	1
Conlon Coal Co., .....		.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	180	.....	.....
Central Coal Co., .....		1	80	.....	80	.....	.....	.....	.....	.....	75	.....	.....	.....	.....	.....
McCauley Coal Co., .....		.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Totals, .....		182	29,881	.....	29,881	.....	23	11	100	430	31,361	51	57,627	31,677	15	28



TABLE 3.—Number of each class of employees inside and outside of mines

Names of Operators	County	Grand total																			
		Inside						Outside													
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employees	Total outside
Pennsylvania Coal Co., ..	{ Luzerne, }	14	35	28	1,605	1,726	483	97	29	559	435	5,011	2	5	168	125	262	82	11	632	1,287
Delaware and Hudson Co., ..		3	10	17	757	839	209	20	17	164	56	2,092	....	6	29	89	67	62	6	272	531
Hillside Coal and Iron Co., ..		3	10	1	369	330	65	10	7	205	148	1,198	1	1	26	31	40	106	18	386	1,584
Lehigh Valley Coal Co., ..		4	20	....	....	341	143	114	8	13	54	77	774	....	3	23	40	....	13	220	994
Traders Coal Co., ..		1	....	5	....	146	142	54	4	2	30	29	413	1	1	6	8	18	....	8	491
Wilkes-Barre Colliery Co., ..		1	3	1	56	106	20	....	4	59	....	250	....	....	1	1	8	....	2	56	306
Conlon Coal Co., ..		1	1	1	18	34	5	....	12	2	74	....	....	....	....	1	7	....	....	1	85
Central Coal Co., ..		1	1	....	30	40	2	....	....	2	4	10	20	1	....	1	1	2	....	5	20
McCauley Coal Co., ..		1	....	....	....	11	6	2	....	....	....	....	20	1	....	1	2	5	....	....	11
Totals, .....		29	80	53	3,333	3,416	954	139	74	1087	757	9,922	6	18	263	311	463	179	35	1,320	2,600
																					12,522



TABLE 4.—Fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan.	7 Charles Faremi,	Italian, .....	Miner, .....	27 M., .....	M., .....	1	4	Barnum, .....	Luzerne, .....	Killed by fall of roof at face of chamber.
	9 Mike Czaroski,	Austrian, ..	Miner, .....	53 M., .....	M., .....	1	2	Pine Ridge, .....		Killed by fall of roof at face of chamber.
	11 Walter Valenpies,	Lithuanian, ..	Miner, .....	27 S., .....	S., .....	1	2	Number 14, .....		Killed by explosion of blast at face of chamber.
	12 Mike Brushits,	Lithuanian, ..	Miner, .....	40 M., .....	M., .....	1	4	Number 6, .....		Killed by fall of roof at face of chamber.
	13 Charles Holden,	English, ..	Miner, .....	52 M., .....	M., .....	1	4	Number 6, .....		Killed by fall of coal at face of chamber.
	16 John Dragus,	Russian, .....	Driver, .....	18 S., .....	S., .....	1	1	Ladlin, .....		Killed by cars on tunnel.
Feb.	3 Charles Gudzytoko,	Lithuanian, ..	Miner, .....	35 S., .....	S., .....	1	1	Number 8, .....		Killed by explosion of powder in chamber.
	4 Vincent Marchese,	Italian, .....	Driver, .....	16 S., .....	S., .....	1	1	Number 8, .....		Killed by runaway cars on slope.
	6 Roger Harvard,	American, ..	Runner, .....	20 S., .....	S., .....	1	1	Number 14, .....		Killed by cars on slope.
March	9 Adam Philapeck,	Polish, .....	Laborer, .....	24 M., .....	M., .....	1	1	Number 14, .....		Killed by fall of roof in chamber.
	17 Zingulichino Coutre,	Italian, .....	Miner, .....	55 M., .....	M., .....	1	1	Mineral Spring, ..		Killed by fall of roof at face of chamber.
	18 Frank Zagnon,	Lithuanian, ..	Miner, .....	39 M., .....	M., .....	1	1	Mudra, .....		Killed by fall of coal on face of chamber.
	19 Alex. Molleskie,	Polish, .....	Laborer, .....	43 M., .....	M., .....	1	3	Pine Ridge, .....		Killed by fall of coal on pillar work.
April	14 Robert Parker,	Polish, .....	Laborer, .....	22 M., .....	M., .....	1	1	Number 6, .....		Killed by fall of roof at face of chamber.
	15 Anthony Giltonski,	English, .....	Miner, .....	50 M., .....	M., .....	1	1	Pine Ridge, .....		Killed by cars on gangway.
	16 Joseph Lavandoskie,	Polish, .....	Miner, .....	31 M., .....	M., .....	1	4	Number 6, .....		Killed by fall of roof in chamber.
	20 John Moscor,	Slavonian, ..	Miner, .....	38 M., .....	M., .....	1	4	Pine Ridge, .....		Killed by fall of roof at face of chamber.
	22 John Zentek,	Polish, .....	Miner, .....	43 M., .....	M., .....	1	4	Number 9, .....		Killed by fall of coal at face of chamber.
	23 John Zentek,	Polish, .....	Miner, .....	45 M., .....	M., .....	1	4	Number 9, .....		Killed by explosion of blast at face of chamber.
	28 Edward Davis,	Welsh, .....	Laborer, .....	33 S., .....	S., .....	1	4	Barnum, .....	Delaware, ..	Killed by cars on gangway.
	30 Anthony Lortins,	Lithuanian, ..	Doorman, .....	48 S., .....	S., .....	1	4	Number 9, .....		Killed by cars on gangway.
May	11 Lewis Honsboskie,	Polish, .....	Miner, .....	47 M., .....	M., .....	1	2	Number 14, .....		Killed by explosion of blast in cross-cut.
	12 Frank Brodzkie,	Polish, .....	Miner, .....	32 M., .....	M., .....	1	4	Delaware, .....		Killed by explosion of blast in cross-cut.
	13 Joseph Martyn,	German, .....	Miner, .....	43 M., .....	M., .....	1	2	Barnum, .....		Killed by fall of roof at face of chamber.
	21 John Horvath,	German, .....	Laborer, .....	21 S., .....	S., .....	1	2	Barnum, .....		Killed by fall of roof at face of chamber.
June	5 John Hammon,	Irish, .....	Miner, .....	40 M., .....	M., .....	1	4	Pine Ridge, .....		Killed by fall of roof at face of chamber.
	5 Vincent Deasonak,	Polish, .....	Miner, .....	36 M., .....	M., .....	1	6	Butler, .....		Killed by explosion of blast at face of chamber.
	22 Alex. Ballis,	Austrian, ..	Miner, .....	45 M., .....	M., .....	1	2	Mineral Spring, ..		Killed by fall of roof at face of chamber.
Aug.	23 John Leskowskie,	Polish, .....	Miner, .....	42 M., .....	M., .....	1	7	Number 14, .....		Killed by fall of roof at face of chamber.
	5 Simon Dan,	Polish, .....	Miner, .....	40 M., .....	M., .....	1	1	Number 14, .....		Killed by fall of roof at face of chamber.

TABLE 4.—Continued

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Aug.	6 George Zamuczke, ..	Polish, .....	Miner, .....	43	M.	1	3	Delaware, .....	Luzerne, .....	Killed by explosion of blast at face of chamber.
23	William Glokins, ....	Polish, .....	Miner, .....	39	M.	1	5	Mineral Spring, .....		Killed by fall of roof at face of chamber.
28	Bart Barnowski, ...	Polish, .....	Miner, .....	51	M.	1	4	Latlin, .....		Fatally burned by explosion of powder in chamber.
Sept.	10 Nicholas Test, .....	Italian, .....	Headman, ....	25	M.	1	...	Number 9, .....		Killed by cars near head of shaft. Outside smothered in rush of sand and clay. Outside.
22	Edward Kelley, ....	Irish, .....	Laborer, .....	21	S.	...	...	Number 14, ....		Killed by cars on gangway.
28	Anthony Roman, ....	Russian, ....	Laborer, .....	45	M.	1	6	Number 9, ....		Killed by explosion of blast in cross-cut.
Oct.	2 David Fratti, .....	Italian, .....	Laborer, .....	24	S.	...	...	Ridgewood, ....		Killed by cars while riding on bumper.
	6 John Lameshinski, ..	Polish, .....	Driver, .....	24	S.	...	...	Number 14, ....		Killed by explosion of blast at face of chamber.
9	Stanley Euchich, .....	Polish, .....	Miner, .....	28	S.	...	...	Heldelberg No. 1, .....		Killed by explosion of blast at face of chamber.
15	Raphael Zeplo, .....	Italian, .....	Laborer, .....	36	M.	1	...	Number 9, ....		Killed by fall of roof at face of chamber.
16	Adam Okum, .....	Polish, .....	Miner, .....	55	M.	1	4	Pine Ridge, ....		Killed by explosion of blast at face of chamber.
Nov.	6 John Rosker, .....	German, ....	Miner, .....	55	M.	1	3	Pine Ridge, ....		Killed by fall of roof at face of chamber.
22	John Dimogolsky, ....	Polish, .....	Miner, .....	39	M.	1	5	Latlin, .....		Killed by fall of roof at face of chamber.
28	Leon Riekel, .....	Polish, .....	Miner, .....	50	M.	1	...	Number 14, ....		Killed by explosion of blast in cross-cut.
Dec.	18 Edward Resvokle, ....	Polish, .....	Miner, .....	27	S.	...	...	Number 9, ....		Killed by cars in chamber.
21	Richard Webb, .....	English, ....	Motorman, ....	28	M.	1	2	Butler, .....		Killed by fall of coal at face of chamber.
29	Charles Merchak, ....	Polish, .....	Miner, .....	38	M.	1	...	Number 14, ....		Killed by cars in old chamber.
	Samuel Bozilino, ....	Italian, .....	Laborer, .....	24	S.	...	...	Number 6, ....		Killed by cars in old chamber.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 20	Michael Rehorich, .....	Slavonian, ..	Miner, .....	31	M.	Heidelberg No. 1, ...	Leuzerne, ....	Fingers cut off by cars at face of chamber.
23	Frank Resnor, .....	American, ..	Laborer, .....	63	M.	Butler, .....		Leg fractured by cars in ash pit. Outside.
26	William Thomas, ....	American, ..	Assistant fore- man, .....	37	M.	Ewen, .....		Face and hands burned by explosion of gas on gangway.
	George Steel, .....	American, ..	Assistant fore- man, .....	44	M.	Ewen, .....		Face and hands burned by explosion of gas on gangway.
Feb. 3	George Alonis, .....	Lithuanian, ..	Laborer, .....	25	S.	Number 9, .....		Face and hands burned by explosion of powder in chamber.
4	Peter Tomshock, ....	American, ..	Motorman, .....	21	S.	Madeira, .....		Hip bruised by car in chamber.
8	Mathew Brady, .....	American, ..	Miner, .....	45	M.	Ewen, .....		Chest burned by explosion of gas in chamber.
	Joseph Tuirl, .....	Polish, .....	Laborer, .....	35	S.	Ewen, .....		Body burned by explosion of gas in chamber.
	John Flynn, .....	American, ..	Headman, .....	42	M.	Butler, .....		Pelvis fractured by cars near shaft. Outside.
11	Joseph Bartish, .....	Lithuanian, ..	Miner, .....	37	M.	Pine Ridge, .....		Ribs fractured by explosion of blast at face of chamber.
12	Frank Valeshie, .....	Polish, .....	Laborer, .....	26	M.	Conlon, .....		Head fractured by cars on slope.
18	George Petrecanis, ..	Lithuanian, ..	Laborer, .....	25	S.	Ladlin, .....		Head bruised by cars on gangway.
26	Dominick Dollsander, ..	Italian, .....	Engineer, .....	19	S.	Butler, .....		Arm fractured by rope in engine house. Outside.
March 1	Edward Skidlowskie, ..	Polish, .....	Miner, .....	25	S.	Delaware, .....		Head bruised by explosion of blast at face of chamber.
	Charles Oplinger, ....	American, ..	Laborer, .....	42	S.	Madeira, .....		Leg bruised by cars on gangway.
23	Frank Sarduskie, ....	Polish, .....	Miner, .....	38	M.	Pine Ridge, .....		Rib fractured by explosion of blast at face of chamber.
24	Anthony Syrakas, ....	Polish, .....	Miner, .....	38	M.	Ladlin, .....		Leg fractured by rock sliding from gob in chamber.
30	Joseph McHale, ....	Irish, .....	Miner, .....	50	M.	Number 9, .....		Head lacerated by explosion of blast at face of chamber.
	Paul Marcusanis, ....	Lithuanian, ..	Miner, .....	36	M.	Ladlin, .....		Ankle dislocated by fall of roof in chamber.
April 13	Roch Chiuone, .....	Italian, .....	Footman, .....	22	M.	Number 6, .....	Leuzerne, ....	Jaw fractured by cars on gangway.
	Joseph Hissell, .....	Italian, .....	Boorman, .....	52	M.	Number 6, .....		Leg fractured by cars on slope.
	George Severnak, ....	Slavonian, ..	Statepicker, .....	15	S.	Pine Ridge, .....		Arm fractured by machinery in breaker. Outside.

TABLE 5.—Continued

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
April 17	Sabastine Kinko, ....	Polish, .....	Miner, .....	38	M.	Pine Ridge, .....		Face and hands burned by explosion of gas in chamber.
	Stephen Konick, ....	Austrian, ..	Laborer, .....	44	M.	Pine Ridge, .....		Face and hands burned by explosion of gas in chamber.
May 1	Andrew Vistak, .....	Austrian, ..	Laborer, .....	34	M.	Pine Ridge, .....		Leg broken by cars in chamber.
	Ioss Tota, .....	Italian, .....	Laborer, .....	26	S.	Number 6, .....		Face and hands burned by explosion of powder in chamber.
6	Michael Dopsinski, ..	German, .....	Teamster, .....	68	M.	Delaware, .....		Leg broken by wheel of wagon. Outside.
11	Frank Heferon, .....	American, ..	Laborer, .....	29	S.	Pine Ridge, .....		Arm fractured by falling from boiler house roof. Outside.
	John Saltus, .....	Slavonian, ..	Laborer, .....	48	M.	Number 14, .....		Face lacerated by explosion of blast at face of chamber.
12	William Hope, .....	American, ..	Laborer, .....	18	S.	Pine Ridge, .....		Fingers crushed by cars. Outside.
13	William Bloak, .....	Polish, .....	Laborer, .....	40	M.	Barnum, .....		Foot crushed by fall of roof at face of chamber.
	Thomas Rogan, .....	Irish, .....	Miner, .....	42	M.	Barnum, .....	Luzerne, .....	Head lacerated by fall of roof at face of chamber.
22	Richard McDonald, ..	American, ..	Fire boss, .....	51	M.	Pine Ridge, .....		Face and hands burned by explosion of gas in chamber.
29	George Simpa, .....	Slavonian, ..	Laborer, .....	53	M.	Number 14, .....		Nose bruised by cars on gangway.
1	John Lepo, .....	Russian, .....	Miner, .....	42	M.	Delaware, .....		Face and hands burned by explosion of powder in chamber.
9	Mazzerne Picotti, ....	Italian, .....	Miner, .....	42	M.	Number 14, .....		Arm fractured by explosion of blast at face of chamber.
16	Theodore Charleston, ..	American, ..	Rockman, .....	34	M.	Number 6, .....		Body injured by being struck by rope on gangway.
23	Martin Kenney, .....	American, ..	Laborer, .....	41	M.	Number 9, .....		Leg fractured by cars on gangway.
26	Frank Coganianski, ..	Polish, .....	Miner, .....	31	M.	Number 6, .....		Hands bruised by fall of rock at face of chamber.
July 8	Joseph Kozarek, .....	Polish, .....	Miner, .....	27	M.	Ladlin, .....		Fingers crushed by cars in chamber.
14	Paul Kuraskie, .....	Russian, .....	Laborer, .....	35	M.	Delaware, .....		Leg fractured by fall of roof at face of chamber.
21	John Vistertopske, ....	Lithuanian, ..	Miner, .....	35	M.	Ladlin, .....		Back bruised by fall of roof at face of chamber.
	Barney Guzonske, ....	German, ....	Rimmer, .....	29	S.	Ladlin, .....		Finger cut off by cars on gangway.
23	Pelix Biscontine, ....	Italian, .....	Miner, .....	32	M.	Butler, .....		Leg fractured by fall of roof at face of chamber.



July Aug.	30	Frank Lacerata, 6 Dominick Gurek,	Italian, .....	Driver, .....	19	S. Number 6, .....	Leg fractured by cars on gangway. Skull fractured by fall of roof at face of chamber.
	12	Stanley Wellaski, Samuel Wasloskie,	Lithuanian, .....	Laborer, .....	36	S. Number 14, .....	Leg fractured by cars on gangway.
	28	Walter Latanski,	American, Polish, .....	Miner, .....	22	S. Madeira, .....	Leg fractured by cars on gangway. Face and hands burned by explosion of gas
		Joseph Siletskie,	Polish, .....	Laborer, .....	40	M. Delaware, .....	Face and hands burned by explosion of powder in chamber.
Sept.	3	Martin Garvey,	American, .....	Engineer, .....	35	M. Ladin, .....	Foot bruised by cars on gangway.
	8	Andrew Datto,	Lithuanian, .....	Miner, .....	30	S. Pine Ridge, .....	Fingers cut off by fall of roof at face of chamber.
	9	Thomas Rabbitt,	Austrian, ..	Miner, .....	30	M. Pine Ridge, .....	Leg fractured by explosion of blast, at face of chamber.
	11	Michael Basta,	Italian, .....	Miner, .....	39	M. Pine Ridge, .....	Back sprained by cars in chamber.
	13	Andrew Kirelin,	Lithuanian, ..	Miner, .....	41	M. Pine Ridge, .....	Arm and ribs fractured by explosion of blast at face of chamber.
	18	Adam Miziek,	Lithuanian, ..	Miner, .....	24	S. Butler, .....	Leg fractured by fall of roof at face of chamber, injured. Kicked by a mule while putting him on cage. Outside.
	29	Frank Hale,	American, ..	Headman, ..	53	M. Ladin, .....	Leg fractured by fall of roof on gangway.
Oct.		George Joble, Joseph Mioskie, Benjamin Buckelin,	German, .....	Runner, .....	21	S. Number 6, .....	Arm fractured by cars. Outside.
	1		American, ..	Slatepicker, ..	15	S. Ladin, .....	Leg fractured by fall of roof on gangway.
	2		Polish, .....	Miner, .....	40	M. Barnum, .....	Arm fractured by cars. Outside.
Nov.	24	Matlick Szelos, Anthony Savitskie,	Russian, .....	Laborer, .....	25	S. Number 14, .....	Ankle fractured by fall of roof at face of chamber.
		Stanley Gurski,	Russian, .....	Miner, .....	39	M. Madeira, .....	Knee fractured by cars on gangway.
	24	Victor Verpobopsky,	Polish, .....	Miner, .....	25	S. Number 14, .....	Head lacerated by fall of roof at face of chamber.
	26	Samuel Pfafoskie,	Polish, .....	Miner, .....	28	S. Butler, .....	Leg fractured by fall of roof at face of chamber.
Dec.	2	Anthony Bulzinski,	Polish, .....	Miner, .....	22	S. Madeira, .....	Hand burned off by explosion of blast at face of chamber.
	7	James Sibona,	Polish, .....	Miner, .....	41	M. Pine Ridge, .....	Fluor fractured by cars on gangway.
		John Olier,	Polish, .....	Miner, .....	52	M. Even, .....	Foot crushed by fall of roof at face of chamber.
	10	Peter Rusecar,	Italian, .....	Laborer, ..	36	S. Ewen, .....	Arms burned by explosion of gas at face of chamber.
	18	Pelix Demosky,	Lithuanian, ..	Slatepcker, ..	15	S. Number 9, .....	Face burned by explosion of gas at face of chamber.
	20	Frank Beretta,	Polish, .....	Miner, .....	30	S. Number 9, .....	Leg fractured by falling in breaker. Outside.
		Michael Handel,	Italian, .....	Laborer, ..	39	M. Butler, .....	Leg fractured by fall of roof at face of chamber.
		Anthony Billis,	Polish, .....	Miner, .....	45	M. Madeira, .....	Leg fractured by fall of roof at face of chamber.
	21	Joseph Carolo, Antonio Pietrulli,	Austrian, ..	Laborer, ..	40	S. Madeira, .....	Leg bruised by explosion of blast at face of chamber.
		Jimmay Afrini,	Italian, .....	Laborer, ..	28	M. Butler, .....	Leg bruised by explosion of blast at face of chamber.
			Italian, .....	Miner, .....	44	M. Number 14, .....	Hip bruised by cars at face of chamber.
			Italian, .....	Laborer, ..	25	S. Number 14, .....	Forearm fractured by fall of coal at face of chamber.
			Italian, .....	Laborer, ..			Scalp lacerated by fall of coal at face of chamber.

Luzerne, .....

## CONDITION OF COLLIERIES

## PENNSYLVANIA COAL COMPANY

Barnum, Numbers 9, 6, 14 and Ewen Collieries.—Ventilation drainage and condition as to safety, good.

## DELAWARE AND HUDSON COMPANY

Lafin, Delaware and Pine Ridge Collieries.—Ventilation, drainage and condition as to safety, good.

## LEHIGH VALLEY COAL COMPANY

Mineral Spring and Heidelberg No. 1 Collieries.—Ventilation, drainage and condition as to safety, good.

## TRADERS COAL COMPANY

Ridgewood Colliery.—Ventilation and drainage, fair. Condition as to safety, good.

## WILKES-BARRE COLLIERY COMPANY

Madeira Colliery.—Ventilation and drainage, fair. Condition as to safety, good.

## CONLON COAL COMPANY

Conlon Colliery.—Ventilation, drainage and condition as to safety, good.

## CENTRAL COAL COMPANY

Wyoming Colliery.—Ventilation, drainage and condition as to safety, good.

## McCAULEY COAL COMPANY

Pickaway Colliery.—Ventilation and drainage, fair. Condition as to safety, good.

## IMPROVEMENTS

## PENNSYLVANIA COAL COMPANY

Number 9 Colliery.—Installed air compressor at the shaft, and erected a brick extension to the engine room. Completed a brick building 36 feet by 62 feet with a slag roof, at No. 3 shaft. A concrete partition was put in No. 3 shaft between the upcast and downcast from the Red Ash to the surface.

Number 6 Colliery.—Inside: At No. 6 shaft. Installed 2 electric motors to replace air motors, and a large pair of engines on the Red Ash slope. At No. 5 shaft, installed 3 electric motors to replace air motors.

Outside. Completed a brick, iron and concrete power house 38 by 96 by 16 feet, and installed therein one 330 H. P. McEwen engine driving D. C. generator to furnish electricity to Nos. 5, 6 and 11 shafts. Also completed a concrete, iron and brick building for sand-dryer, cement-house, lime, hay, feed, hospital and storeroom.

Number 14 Colliery.—At the Red Ash shaft installed a hoisting and a fan engine, and built houses for same. Also built an addition to No. 2 tower. At the Hillman slope installed an engine, and built a house for same.

Ewen Colliery.—Inside: Sunk an air shaft, 12 feet by 14 feet, from surface to the Marcy vein at Hoyt shaft. A new concrete pump-room was built in the Schooley shaft, Pittston vein, and a Jeanesville pump, 24 by 48 by 12 by 36 inches was installed therein.

Outside:—Erected a new concrete and steel breaker and washery to replace the breaker destroyed by fire on December 11, 1914. Installed a 14-foot fan, enclosed in a brick building, to ventilate workings in the Hoyt shaft. At the Schooley shaft, a new washery was erected to prepare coal taken from the culm bank for steam purposes.

#### DELAWARE AND HUDSON COMPANY

Lafin Colliery.—Extended No. 4 plane, Red Ash vein, a distance of 250 feet.

Delaware Colliery.—Extended No. 14 plane in the Red Ash vein, 350 feet through fault to the workable coal beyond. Completed a tunnel, from No. 7 plane Ross vein, a distance of 500 feet, to cut veins in back basin.

Pine Ridge Colliery.—Completed No. 26 slope, Checker to Bennett vein, and No. 30 slope in Red Ash vein was extended a distance of 250 feet toward the basin.

#### HILLSIDE COAL AND IRON COMPANY

Butler Colliery.—Completed the water tunnel to Fernwood to take the water to the Pittston water tunnel.

#### LEHIGH VALLEY COAL COMPANY

Mineral Spring Colliery.—Inside: A fire line was installed in the Red Ash vein.

Outside:—A concrete dam was constructed at the reservoir to increase capacity of same. Completed structural steel work under an empty car trestle. Drilled a bore hole from the surface to the Red Ash vein, a depth of 265 feet, to conduct signal wires from outside engine house to No. 5 plane.

#### MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in the Y. M. C. A. Hall, Pittston, May 18 and 19. The Board of Examiners was composed of Hugh McDonald, Inspector; H. T. McMillan, Superintendent, West Pittston; Frank J. Parks, Miner, Pittston; and Michael J. Ford, Miner, Pittston.

The following persons passed a satisfactory examination and were granted certificates:

## MINE FOREMEN

Michael J. Reap, David Anderson, Pittston; James Flynn, Parsons; John Girvan, Plainsville.

## ASSISTANT MINE FOREMEN

Dugald MacLellan, John W. Owens, John Regan, Norman Smiles, Ambrose Martin, Thomas Gibbons, James McGlynn, Pittston; Charles S. Watkins, Raymond Mugford, Parsons; Martin A. Duddy, John W. Davies, Plains; Vania Price, Avoca; Charles Dobbie, Duryea; John J. Brennan, Miners Mills; and John A. Evers, Luzerne.

## SEVENTH DISTRICT

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LUZERNE COUNTY

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Wilkes-Barre, Pa., February 24, 1916.

Hon. James E. Roderick, Chief of Department of Mines:

Sir:—I have the honor to transmit herewith my annual report of the Seventh Anthracite District for the year ending December 31, 1915.

Respectfully submitted,

THOMAS J. WILLIAMS,

Inspector

## SUMMARY OF STATISTICS

Number of collieries, .....	19
Number of mines, .....	44
Number of mines in operation, .....	44
Number of tons of coal shipped to market, .....	4,667,206
Number of tons used at mines for steam and heat, ....	563,902
Number of tons sold to local trade and used by employes,	302,859
Number of tons produced, .....	5,533,967
Number of tons produced by compressed air machines, ..	.....
Number of tons produced by electrical machines, .....	.....
Number of persons employed inside of mines, .....	9,092
Number of persons employed outside, .....	2,371
Number of fatal accidents inside of mines, .....	60
Number of fatal accidents outside, .....	5
Number of non-fatal accidents inside of mines, .....	91
Number of non-fatal accidents outside, .....	13
Number of tons of coal produced per fatal accident in- side, .....	92,232
Number of tons produced per fatal accident outside, ...	1,106,793
Number of tons produced per fatal accident inside and outside, .....	85,138
Number of persons employed per fatal accident inside, ..	152
Number of persons employed per fatal accident outside,	474
Number of persons employed per fatal accident inside and outside, .....	176
Number of persons employed per non-fatal accident in- side, .....	100
Number of persons employed per non-fatal accident out- side, .....	182
Number of persons employed per non-fatal accident in- side and outside, .....	110
Number of wives made widows, .....	35
Number of children made orphans, .....	70
Number of steam locomotives used inside of mines, ....	.....
Number of steam locomotives used outside, .....	37
Number of compressed air locomotives used inside, ..	14
Number of compressed air locomotives used outside, ..	.....
Number of electric motors used inside, .....	28
Number of electric motors used outside, .....	.....
Number of gasoline locomotives used inside, .....	.....
Number of fans in use, .....	48
Number of furnaces in use, .....	.....
Number of gaseous mines in operation, .....	41
Number of non-gaseous mines in operation, .....	3
Number of new mines opened, .....	.....
Number of old mines abandoned, .....	.....



## TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
Lehigh and Wilkes-Barre Coal Company, .....	2,521,422
Lehigh Valley Coal Company, .....	1,890,283
Delaware and Hudson Company, .....	561,006
Wilkes-Barre Anthracite Coal Company, .....	191,436
Red Ash Coal Company, .....	180,989
Pittston Coal Mining Company, .....	129,918
Campbell and Johns, .....	38,223
Delaware, Lackawanna and Western Railroad Com- pany, .....	20,690
Total, .....	<u>5,533,967</u>

## Production by Counties

Luzerne, .....	<u>5,533,967</u>
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TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Lobich and Wilkes-Barre Coal Co., .....	19	1	20	52	10	62	132,705	47,574	4,364	1,000	5,364	250	1,000	82	100
Lobich Valley Coal Co., .....	31	2	33	28	1	29	60,976	67,516	2,800	608	3,408	90	304	109	608
Delaware and Hudson Co., .....	6	.....	6	7	2	9	93,551	83,144	819	374	1,193	137	.....	117	187
Wilkes-Barre Anthracite Coal Co., .....	1	.....	1	1	.....	1	191,436	191,436	361	61	435	364	.....	364	.....
Red Ash Coal Co., .....	.....	1	1	2	.....	2	.....	90,495	311	215	596	.....	197	156	.....
Campbell and Johns, .....	.....	.....	.....	.....	.....	.....	58,523	.....	81	24	116	81	.....	.....	.....
Delaware, Lackawanna and Western Railroad Co., .....	2	.....	2	.....	.....	.....	10,945	.....	112	19	132	57	.....	.....	.....
Miscellaneous Companies, .....	.....	.....	.....	.....	.....	.....	240	.....	240	60	300	.....	.....	.....	.....
Totals and averages, .....	60	5	65	91	12	104	92,332	63,815	9,092	2,371	11,463	152	474	100	182

Names of Operators

TABLE C.—Causes of Fatal Accidents Inside and Outside of Mines

	Months												Totals	Percentages
	January	February	March	April	May	June	July	August	September	October	November	December		
Inside														
Falls of coal, .....	1	....	1	....	2	....	1	....	1	....	....	....	6	10.00
Falls of slate, .....	1	1	1	....	....	....	....	1	....	....	....	....	6	10.00
Falls of roof, .....	1	....	....	....	1	....	....	1	2	....	1	....	6	10.00
Mine cars, .....	1	....	....	1	1	1	1	1	....	....	....	....	8	13.33
Explosions of gas, ....	....	14	....	1	....	....	....	....	....	....	....	....	15	25.00
Explosions of powder and dynamite, .....	1	....	....	....	....	....	....	....	....	....	....	....	1	1.67
Blasts, premature and otherwise, .....	....	....	1	2	....	1	1	....	1	1	4	2	13	21.66
Falling into shafts, ..	....	....	....	....	....	....	....	....	....	....	....	....	2	3.33
Struck by piece of coal, .....	....	....	....	....	....	....	....	....	1	....	....	....	1	1.67
Struck by windlass, ....	....	....	....	....	....	....	....	....	....	....	....	....	1	1.67
Struck by timber, ....	1	....	....	....	....	....	....	....	....	....	....	....	1	1.67
Totals, .....	6	15	4	5	7	2	3	4	5	1	5	3	63	100.00
Outside														
Cars, .....	....	....	....	1	....	1	....	....	1	1	1	....	5	100.00
Totals, .....	....	....	....	1	....	1	....	....	1	1	1	....	5	100.00
Grand totals inside and outside, .....	6	15	4	6	7	3	3	4	6	2	6	3	68	.....

TABLE D.—Causes of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Inside														
Falls of coal, .....	1	1		1		1	1	....	3	1	2	1	13	13.19
Falls of slate, .....	1	....	1	1	1			....	....	....	....	....	4	4.40
Falls of roof, .....	1	1		1		1		....	3	1	1	....	9	9.89
Mine cars, .....			1	12	12		1	....	2	1	12	1	14	15.38
Explosions of gas, ....	4	1	12	3	12	....	12	12	1	12	....	....	19	20.88
Blasts, premature and otherwise, .....		1	12	4	....	4	2	1	1	3	....	....	18	19.78
Mules, .....	1	....											2	2.20
Struck by axe, .....									1		1		1	1.10
Struck by rope, .....										1			1	1.10
Struck by lever, .....								1					1	1.10
Struck by timber, .....				1				1					3	3.29
Struck by piece of coal, .....						1		1	1			2	6	6.59
Struck by debris, .....	1												1	1.10
Totals, .....	9	4	6	14	5	8	6	6	13	10	6	4	91	100.00
Outside														
Cars, .....		1	1						1	1			4	30.77
Machinery, .....	1	1	1										3	23.08
Struck by piece of coal, .....												2	2	15.38
Electricity, .....			1										1	7.69
Falling, .....								1			1	1	3	23.07
Totals, .....	1	2	3					1	1	1	1	3	13	100.00
Grand totals inside and outside, .....	10	6	9	14	7	8	6	7	14	11	7	7	104	....

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months											
	January	February	March	April	May	June	July	August	September	October	November	December
<b>Inside</b>												
Assistant mine foremen, .....					1							1
Miners, .....	1	4	3	3	1	1	1	3	3		1	21
Miners' laborers, .....	1					1	1				1	13
Drivers and runners, .....							1			1		2
Doorboys and helpers, .....												10
Engineers, .....					1							1
Headmen, .....				1								1
Timbermen, .....	1										1	1
Rockmen, .....	1				2					1		4
<b>Totals, .....</b>	<b>6</b>	<b>15</b>	<b>4</b>	<b>5</b>	<b>7</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>1</b>	<b>5</b>	<b>3</b>
<b>Outside</b>												
Foremen, .....						1						1
Engineers and firemen, .....				1					1		1	3
Loaders, .....										1		1
<b>Totals, .....</b>				<b>1</b>		<b>1</b>			<b>1</b>	<b>1</b>	<b>1</b>	<b>5</b>
<b>Grand totals inside and outside, .....</b>	<b>6</b>	<b>15</b>	<b>4</b>	<b>6</b>	<b>7</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>6</b>	<b>2</b>	<b>6</b>	<b>3</b>

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months											
	January	February	March	April	May	June	July	August	September	October	November	December
<b>Inside</b>												
Miners, .....	6	2	4	8	1	6	4	3	6		3	3
Miners' laborers, .....		1		3		1		3	3	6		23
Drivers and runners, .....	1	1		3	1				1		2	9
Pumpmen, .....									1			1
Engineers, .....										1		1
Rope spicers, .....										1		1
Masons, .....						1			1			1
Timbermen, .....				1					1			1
Footmen, .....												2
<b>Totals, .....</b>	<b>9</b>	<b>4</b>	<b>6</b>	<b>14</b>	<b>5</b>	<b>8</b>	<b>6</b>	<b>6</b>	<b>13</b>	<b>10</b>	<b>6</b>	<b>4</b>
<b>Outside</b>												
Headmen, .....												1
Machinists, .....												1
Engineers and firemen, .....			1									1
Statepickers, .....	1											2
Laborers, .....								1	1	1		2
Cranemen, .....												1
Table cleaners, .....			1									1
Dumpers, .....		1									1	2
Loaders, .....		1										1
Jig runners, .....		1										1
<b>Totals, .....</b>	<b>1</b>	<b>2</b>	<b>3</b>					<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>3</b>
<b>Grand totals inside and outside, .....</b>	<b>10</b>	<b>6</b>	<b>9</b>	<b>14</b>	<b>5</b>	<b>8</b>	<b>6</b>	<b>7</b>	<b>14</b>	<b>11</b>	<b>7</b>	<b>7</b>

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months											
	January	February	March	April	May	June	July	August	September	October	November	Totals
American, .....	...	5	...	1	1	...	1	...	...	2	1	11
English, .....	...	...	...	...	2	...	...	...	...	...	...	3
Welsh, .....	1	...	...	...	...	1	...	...	...	...	1	3
Irish, .....	...	...	...	...	...	...	...	1	...	...	...	1
German, .....	...	...	...	1	...	1	1	1	...	...	...	4
Polish, .....	1	1	1	3	1	1	...	1	2	...	...	13
Slavonian, .....	1	1	1	...	...	...	...	...	...	...	...	3
Lithuanian, .....	2	1	...	...	2	...	...	...	...	3	...	8
Austrian, .....	1	2	...	...	...	...	...	1	3	...	...	11
Russian, .....	...	...	2	1	1	...	1	...	1	...	...	8
Totals, .....	6	15	4	6	7	3	3	4	6	2	6	67

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months											
	January	February	March	April	May	June	July	August	September	October	November	Totals
Inside												
American, .....	2	2	2	1	1	...	...	1	1	...	2	14
English, .....	...	...	...	1	1	...	...	...	...	1	...	3
Welsh, .....	...	...	2	1	2	...	...	...	4	...	...	8
Irish, .....	1	...	...	...	2	...	...	...	...	...	...	3
German, .....	1	...	...	...	...	...	...	1	...	...	...	2
Polish, .....	5	3	3	5	2	1	4	3	3	1	2	35
Italian, .....	...	...	...	...	...	...	...	...	...	1	...	1
Slavonian, .....	...	...	1	1	...	...	1	...	...	...	...	2
Lithuanian, .....	2	...	...	1	...	...	...	...	3	...	...	5
Austrian, .....	...	1	...	...	...	1	...	...	...	...	1	4
Russian, .....	...	1	1	...	...	...	1	...	...	3	1	10
Greek, .....	...	...	...	...	...	...	...	...	1	...	...	1
Totals, .....	10	6	9	14	5	8	6	7	14	11	7	104

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Lethigh and Wilkes-Barre Coal Co.															
Hollenback No. 2 Colliery:															
Hollenback, .....	Slope, .....	Gaseous, .....	Fan, ...	25.5	11.6	8.9	48	1.4	Guibal, ...	Steam, .....	17	279,040	250,490	336,070	543
Hollenback, .....	Slope, .....			25.5	11.6	8.9	71	1.9							
Hollenback, .....	Shaft, .....			25.5	11.9	8.9	48	1.7							
Hollenback, .....	Shaft, .....			25.5	11.9	8.9	48	1.7							
South Wilkes-Barre No. 5 Colliery:															
South Wilkes-Barre, .....	Shaft, .....	Gaseous, .....	Fan, ...	25.5	11.9	8.9	46	1.7	Guibal, ...	Steam, .....	41	457,630	369,190	540,020	804
South Wilkes-Barre, .....	Shaft, .....			25.5	11.9	8.9	48	2.1							
South Wilkes-Barre, .....	Shaft, .....			25.5	11.9	8.9	48	2.1							
Stanton No. 7 Colliery:															
Stanton, .....	Shaft, .....	Gaseous, .....	Fan, ...	24.5	8	6	71	1.1	Guibal, ...	Steam, .....	38	496,070	447,460	530,110	1,074
Stanton, .....	Shaft, .....			24.5	11.7	8.9	48	1.9							
Stanton, .....	Slope, .....			24.5	11.9	8.9	48	1.8							
Sugar Notch No. 9 Colliery:															
Sugar Notch, .....	Shaft, .....	Gaseous, .....	Fan, ...	20	6.8	5	72	1.3	Guibal, ...	Steam, .....	15	366,360	308,110	485,210	560
Sugar Notch, .....	Shaft, .....	Gaseous, .....	Fan, ...	24	8	6	60	1.3							
Maxwell No. 30 Colliery:															
Maxwell, .....	Slope, .....	Gaseous, .....	Fan, ...	25.5	8.2	6.3	72	1.9	Guibal, ...	Steam, .....	24	372,300	347,870	460,160	700
Maxwell, .....	Shaft, .....			24.5	8	6	72	1.9							
Maxwell, .....	Shaft, .....			24.5	11.9	8.9	46	1.4							
Maxwell, .....	Shaft, .....			25.5	11.9	8.9	46	1.4							



Locality	Gas	Pressure	Temp	Depth	Direction	Remarks	Notes
Lehigh Valley Coal Co. Franklin Colliery: Franklin, Franklin,	Gas, Non-gas,	10. 7.	2.2 7.	90 .....	1.6 .....	Vulcan, .....	Steam, ..... 230,000 43,800 231,550 43,800 231,550
Dorance Colliery: Baltimore, Hillman, Hillman,	Gas, Gas, Fan,*	28. 35. 30.	8. 10.5 8.	60 47 54	1.7 1.9 1.9	Gulbal, Gulbal, Gulbal,	Steam, Steam, Steam, ..... 228,570 182,700 144,900 185,600 270
Prospect Colliery: Prospect, Guthrie, Midvale,	Gas, Gas, Fan,*	20. 20. 25.	8. 8. 5.3 6.	55 55 65 .....	2.0 2.0 1.2 .....	Gulbal, Gulbal, Gulbal, .....	Steam, Steam, Steam, ..... 119,610 106,017 135,897 245 168
Henry Colliery: Baltimore, Five-Foot, Wyoming, Red Ash, Five-Foot and Hillman,	Gas, Gas, Fan,*	30. 28. 25. 28. 20.	8. 7.5 7.5 5.2 5.6	54 46 50 52 69	2.7 1.6 1.1 1.9 1.1	Gulbal, Gulbal, Gulbal, ..... .....	Steam, Steam, Steam, ..... ..... 129,130 78,700 97,349 116,500 96 135,120 172,826 290 195
Warrior Run Colliery: Warrior Run No. 1, Warrior Run No. 4,	Gas, Gas, Fan,*	30. 14.	5. 4.	60 75	1.2 1.7	Gulbal, Gulbal, .....	Steam, Steam, ..... ..... 155,550 40,650 51,570
Delaware and Hudson Co. Baltimore No. 5 Colliery: Baltimore No. 2, Baltimore No. 3, Baltimore No. 5, Conyngham-Hillman, Conyngham-Baltimore,	Gas, Gas, Fan,*	17.5 28. 28. 27. 17.	4.8 5.6 5.6 5.2 5.4	64 65 65 70 90	2.2 2.8 2.8 1.8 1.7	Gulbal, Gulbal, Gulbal, Gulbal, Gulbal,	Steam, Steam, Steam, Steam, Steam, ..... 169,895 168,050 207,130 213 88 125,900 23
Baltimore Tunnel Colliery: Baltimore No. 4, Baltimore, Wilkes-Barre Anthracite Coal Co. Hillman Vein Colliery: Hillman Vein, Hillman Vein,	Gas, Gas, Fan,*	18. 8.	5. 2.2	52 75	1. 1.8	Gulbal, Gulbal, .....	Steam, Steam, ..... ..... 78,820 18,460 23,120 81
Red Ash Coal Co. Red Ash No. 1 Colliery: Red Ash No. 2 Colliery: Red Ash,	Gas, Gas, Fan,*	18. 30.	2. 8.8	96 54	3.7 1.	Jeffrey, Tunaqua,	Steam, Steam, ..... ..... 151,005 97,000 153,000
Red Ash Coal Co. Red Ash No. 1 Colliery: Red Ash No. 2 Colliery: Red Ash,	Gas, Gas, Fan,*	15. 15.	3.9 3.	76 15	1.5 1.5	Vulcan, Vulcan,	Steam, Steam, ..... ..... 47,000 58,650 42,850 106

\*Emergency fan.

TABLE I.—Continued

Names of Operators and Mines	Number of persons employed inside	Number of cubic feet of air per minute passing out at outlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute entering the mine at inlet	Number of splits of air currents	Power used	Name of fan	Water gauge developed—in inches	Number of revolutions per minute	Depth of blades in feet and inches	Width of blades in feet and inches	Diameter of fan in feet and inches	Method of ventilation	Gaseous or non-gaseous	Kind of opening
Pittston Coal Mining Co. High Colliery: Hadleigh, .....	240	55,000	40,000	48,600	2	Steam, .....	Guibal, ....	.8	65	5.	4.	16.6	Fan, .....	Gaseous, ..	Shaft, .....
Hadleigh, .....	81	78,570	66,520	73,575	4	Steam,..... } Electricity }	Buffalo, .... } Buffalo, .... }	.1 .1	75 140	3.6 2.6	3.6 2.6	1.6 3.6	Fan, .....	Non-gas, ..	Slope, .....
Campbell and Johns Miners Mills No. 1, .....															Slope, .....
Miners Mills No. 2, .....															Slope, .....
Delaware, Lackawanna and Western Railroad Co. Pettebone No. 3 and No. 4 Colliery: Pettebone No. 3, .....															Shaft, .....
Pettebone No. 4, .....	113	115,800	100,000	107,600	6	Steam, .....	Sturtevant, .....	1.3 1.2	65 66	7. 7.	3.6 3.6	20. 20.	Fan, .....	Gaseous, .. Gaseous, ..	Shaft, .....

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Lehigh and Wilkes-Barre Coal Co. Hollenback No. 2..... South Wilkes-Barre No. 5..... Stanton No. 7..... Sugar Notch No. 9..... Maxwell No. 20..... Empire Washery.....	Luzerne.....	Charles F. Huber, ..	Wilkes-Barre.....	E. J. Newbaker, .....	Wilkes-Barre.....	C. R. R. of N. J.
Lehigh Valley Coal Co. Franklin..... Dorrance..... Prospect..... Henry..... Warrior Run.....	Luzerne.....	Thomas Thomas, ....	Wilkes-Barre.....	J. H. Haertter, ....	Wilkes-Barre.....	Lehigh Valley
Delaware and Hudson Co. Baltimore No. 5..... Baltimore Tunnel..... Baltimore Tunnel Washery.....	Luzerne.....	Charles Dorrance, Jr.	Scranton.....	S. V. Tench, .....	Scranton.....	D. and H.
Wilkes-Barre Anthracite Coal Co. Hillman Veln..... Red Ash Coal Co. Red Ash Nos. 1 and 2..... Red Ash Washery.....	Luzerne..... } Luzerne.....	Thomas H. Price, ... William D. Jones, ...	Wilkes-Barre..... Wilkes-Barre.....	..... .....	..... .....	Lehigh Valley C. R. R. of N. J.
Pittston Coal Mining Co. Hadleigh..... Campbell and Johns Miners Mills.....	Luzerne..... Luzerne.....	Charles M. O'Boyle..... Lewis Johns, .....	Sugar Notch..... Plains.....	..... .....	..... .....	C. R. R. of N. J. Lehigh Valley
Delaware, Lackawanna and Western Railroad Co. Pettibone Nos. 3 and 4, ...	Luzerne.....	C. E. Tobey, .....	Scranton.....	H. G. Davis, .....	Kingston, .....	D. L. and W.

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employees	Total production of coal in tons	Number of days worked	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Explosives		
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used
Leligh and Wilkes-Barre Coal Co.												
Hall's Run, No. 5, .....	Luzerne,	301,818	34,298	58,824	392,940	212	902	5	8	307,925	16,998	46,792
South Wilkes-Barre, No. 5, .....		447,182	42,068	99,994	589,254	209	1,297	3	14	350,900	19,430	101,828
Stanton, No. 7, .....		551,291	57,249	24,194	632,734	207	1,437	7	15	528,600	29,799	36,750
Sugar Notch No. 9, .....		284,392	31,614	3,124	319,130	202	700	.....	9	193,150	16,516	64,738
Maxwell No. 20, .....		416,086	44,558	12,600	473,241	203	968	.....	14	266,500	10,519	71,135
Totals, .....		2,000,779	209,787	196,736	2,407,302	.....	5,324	20	60	1,646,175	83,262	321,293
Empire Washery, .....	Luzerne,	111,465	2,635	.....	114,120	255	40	.....	3	.....	.....	.....
Totals, .....		2,112,244	212,412	196,736	2,521,422	.....	5,364	20	63	1,646,175	93,262	321,293
Leligh Valley Coal Co.												
Franklin, .....	Luzerne,	286,883	40,955	5,337	343,175	219	615	8	6	217,525	59,298	101
Dorance, .....		477,298	60,551	46,620	584,469	225	871	3	8	445,450	24,794	75
Prospect, .....		244,138	50,820	7,555	402,513	207	866	19	5	283,650	8,575	104
Henry, .....		390,217	47,378	8,000	445,595	.....	859	3	8	307,000	187,895	144
Warrior Run, .....		91,673	21,119	1,729	114,531	†	197	.....	2	52,925	8,813	31
Totals, .....		1,600,209	220,833	69,251	1,890,283	.....	3,408	32	29	1,306,560	289,456	455

\*Coal prepared at Prospect breaker.

†Coal prepared at Franklin breaker.



TABLE 2.—Part 2  
Number and kinds of boilers and locomotives in use, number of steam engines, pumps, electric dynamos and air compressors in use, etc.

Names of Operators	County	Number of Boilers				Locomotives				Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos		Number of air compressors	
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Gasoline	Steam	Air						Electric	1	11	
Leligh and Wilkes-Barre Coal Co.,	Luzerne,	.....	.....	59	12,065	12,065	...	10	14	....	220	24,747	14	15,670	5,160	1	11	24
Leligh Valley Coal Co.,		.....	.....	45	9,704	9,704	.....	13	....	21	115	16,970	11	16,495	14,160	5	9	9
Delaware and Hudson Co.,		.....	6,835	29	6,835	6,835	.....	1	....	5	105	9,103	8	8,960	4,000	5	2	2
Wilkes-Barre Anthracite Coal Co.,		.....	.....	4	2,000	2,000	.....	...	....	....	13	2,270	2	1,900	1,000	2	2	2
Red Ash Coal Co.,		.....	.....	3	900	900	.....	6	....	....	29	1,503	2	1,400	1,150	.....	.....	.....
Pittston Coal Mining Co.,		.....	650	1	650	650	.....	1	....	2	9	1,393	1	700	500	1	.....	.....
Campbell and Johns,		1	125	1	100	225	.....	1	....	....	3	160	1	150	50	.....	.....	.....
Delaware, Lackawanna and Western Railroad Co.,		.....	.....	5	725	725	.....	1	....	....	4	3,467	1	70	70	1	.....	.....
Totals,		.....	1	32,999	148	33,124	33,124	.....	37	14	28	498	58,719	42	44,785	26,090	15	.....



TABLE 3.—Number of each class of employees inside and outside of mines

TABLE 3.—Number of each class of employees in the coal mines of Pennsylvania, 1912																								
Names of Operators	County	Inside										Outside							Grand total					
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)			Bookkeepers and clerks	All other employees	Total outside	
Lehigh and Wilkes-Barre Coal Co., .....	Luzerne,	6	8	91	1,634	1,058	402	253	20	1,872	....	4,364	....	6	32	102	431	33	21	515	1,000	5,364		
Lehigh Valley Coal Co., ..		13	....	71	1,016	620	351	97	28	....	....	2,800	....	5	43	108	43	12	14	383	608	3,408		
Delaware and Hudson Co., ..		3	....	10	215	813	92	5	13	119	....	819	....	5	21	63	32	40	4	209	374	1,193		
Wilkes-Barre Anthracite Coal Co., .....		1	1	5	100	112	58	17	8	44	18	364	1	2	4	10	2	2	4	26	61	45		
Red Ash Coal Co., .....		2	....	....	125	115	34	3	5	25	....	311	....	2	11	25	1	8	3	165	215	536		
Pittston Coal Mining Co., ..		1	1	1	....	102	100	20	3	4	6	240	1	2	6	9	1	7	1	33	69	340		
Campbell and Johns, .....		1	1	1	31	31	7	3	....	4	2	81	....	1	2	5	16	4	1	5	24	115		
Delaware, Lackawanna and Western Railroad Co., .....		1	....	2	33	65	2	....	1	9	....	113	....	....	11	....	....	....	....	8	19	132		
Totals, .....		28	17	180	3,316	2,414	966	473	77	1,067	649	9,092	2	23	129	382	327	106	48	1,654	2,371	11,463		



TABLE 4.—Fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 4	Benjamin Mikas, .....	Lithuanian, .....	Miner, .....	21	S.	....	....	Baltimore No. 5,	Luzerne, ...	Fatally burned by explosion of powder in chamber, cars on gangway.
6	David Price, .....	Welsh, .....	Runner, .....	28	M.	1	5	Dorance, .....		Killed by fall of coal at pillar work.
8	John Struck, .....	Austrian, .....	Laborer, .....	24	M.	1	1	Baltimore Tunnel,		Killed by fall of slate at face of chamber.
23	William Rutkavicz, ..	Lithuanian, .....	Laborer, .....	22	S.	....	....	Hollenback No. 3,		Killed by prop falling on him in chamber.
25	Mike Kavka, .....	Slavonian, .....	Timberman, .....	42	M.	1	4	Prospect, .....		Killed by fall of roof at face of chamber.
26	Felix Kerseky, .....	Polish, .....	Rockman, .....	30	S.	....	....	South Wilkes-Barre No. 5,		Killed by fall of slate at face of chamber.
4	Frank Znadlana, .....	Polish, .....	Miner, .....	26	M.	1	1	Hollenback No. 2,		Killed by explosion of gas in chamber. A rush of coal occurred, the effect to a ship or gas pressure, and the force of the rush of coal caused the gas to escape with great force, a distance of 175 feet to the miners' box, where it came in contact with John Lackavage's open light. The other men and boys were on their way down the branch to eat their lunch when they were caught by the force of the explosion. A description of this accident is given in the preliminary part of the report.
17	John Lackavage, .....	Russian, .....	Laborer, .....	29	M.	1	5	Prospect, .....		Fatally burned by explosion of gas in abandoned chamber.
18	Thomas Barszayayev, ..	Austrian, .....	Miner, .....	42	S.	....	....	Henry, .....		Fatally injured by explosion of blast at face of chamber.
19	Lewis Struka, .....	Austrian, .....	Miner, .....	31	M.	1	1	Stanton No. 7, .....		Killed by fall of slate at face of chamber.
21	Daniel Soudak, .....	Austrian, .....	Laborer, .....	25	S.	....	....	Prospect, .....	Luzerne, ...	Killed by fall of slate at face of chamber.
22	John Gelash, .....	Austrian, .....	Laborer, .....	24	M.	1	4	Franklin, .....		Fatally injured by cars on gangway.
23	John Kovalewski, .....	Austrian, .....	Laborer, .....	18	M.	1	1	Henry, .....		Killed by explosion of gas in chamber.
24	John Tardak, .....	American, .....	Miner, .....	19	S.	....	....	Maxwell No. 20, ..		Killed by explosion of blast at face of chamber.
25	Patrick Gavin, .....	American, .....	Runner, .....	15	S.	....	....	Hillman Vein, ..		Killed by explosion of blast at face of chamber.
26	John Owens, .....	Slavonian, .....	Runner, .....	15	S.	....	....	South Wilkes-Barre No. 3,		
27	Brano Leslinsky, .....	American, .....	Runner, .....	22	S.	....	....			
28	Mike Michalo, .....	American, .....	Driver, .....	18	S.	....	....			
29	August Wolgest, .....	American, .....	Doorboy, .....	18	S.	....	....			
24	Thomas Polukas, .....	Lithuanian, .....	Runner, .....	21	S.	....	....			
March 9	Mike Muscavage, .....	Russian, .....	Laborer, .....	23	S.	....	....	Henry, .....	Luzerne, ...	Fatally injured by explosion of blast at face of chamber.
10	Martin Knotskie, .....	Polish, .....	Miner, .....	23	M.	1	3	Stanton No. 7, .....		Killed by fall of slate at face of chamber.
25	Michael Danke, .....	Russian, .....	Laborer, .....	24	M.	1	1	Prospect, .....		Killed by cars on slope.
27	John Lawrence, .....	Slavonian, .....	Miner, .....	58	M.	1	....	Franklin, .....		Fatally injured by cars on gangway.
April 6	Harry Oliniski, .....	Polish, .....	Houtman, .....	24	S.	....	....	Henry, .....		Killed by explosion of gas in chamber.
8	John Mosicki, .....	Russian, .....	Laborer, .....	46	M.	1	3	Maxwell No. 20, ..		Killed by explosion of blast at face of chamber.
9	John Subace, .....	Polish, .....	Laborer, .....	35	M.	1	1	Hillman Vein, ..		Killed by explosion of blast at face of chamber.
13	John Grilde, .....	German, .....	Miner, .....	50	M.	1	....	South Wilkes-Barre No. 3,		
13	Aleck Karlowski, .....	Polish, .....	Miner, .....	26	M.	1	....			

TABLE 4.—Continued

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
April 19	Michael Pedor, .....	American, ..	Engineer, .....	21	S.	...	...	Red Ash No. 2,...	Luzerne, ...	Killed by cars on ash bank. Outside.
May 3	Frank Scrobinski, .....	Lithuanian, ..	Laborer, .....	52	M.	1	2	Stanton No. 7,...		Killed by fall of roof at face of chamber.
5	John Davitius, .....	Lithuanian, ..	Engineer, .....	19	S.	...	...	South Wilkes		Killed by cars in tunnel.
6	James Hendy, .....	English, ...	Assistant fore- man, .....	44	M.	1	1	Barre No. 5.		Killed by cars on slope.
7	Edwin Partt, .....	English, ...	Rockman, .....	48	S.	...	...	Pettebone No. 3,		Killed by falling down shaft.
13	Anthony Jankowsky, ..	Polish, .....	Laborer, .....	23	S.	...	...	Maxwell No. 30,		Killed by fall of coal at face of chamber.
15	Peter Kabis, .....	Russian, .....	Miner, .....	49	M.	1	...	Baltimore No. 5,		Killed by fall of coal at face of chamber.
15	Lazarus Williams, ...	American, ...	Rockman, ...	30	M.	1	2	Pettebone No. 4,		Killed by falling down shaft.
June 7	Thomas Kapa, .....	Polish, .....	Miner, .....	31	M.	1	4	Baltimore No. 5,		Killed by explosion of blast at face of chamber.
11	William Harris, .....	Welsh, .....	Laborer, .....	69	M.	1	...	Stanton No. 7,...		Killed by cars in chamber.
July 14	John Massman, .....	German, ...	Foreman, ...	67	M.	1	1	Dorrance, .....		Killed by cars while attempting to cross tracks. Outside.
15	John Poporga, .....	Russian, ...	Miner, .....	51	M.	1	4	Franklin, .....		Killed by explosion of blast at face of chamber.
31	John Brown, .....	Russian, ...	Laborer, .....	25	M.	1	2	Prospect, .....		Killed by fall of coal at face of chamber.
Aug. 7	Stanley Kovaskie, ...	American, ...	Driver, .....	18	S.	...	...	Maxwell No. 20,		Killed by cars on gangway.
12	Peter Bubble, .....	Austrian, ...	Laborer, ...	27	M.	1	1	Prospect, .....		Killed by fall of slate at face of chamber.
14	Charles McDewitt, ...	German, ...	Miner, .....	57	S.	...	...	Franklin, .....		Killed by fall of roof on pillar work.
27	John Samonskie, .....	Irish, .....	Laborer, ...	73	M.	1	...	Franklin, .....		Killed by cars in drift.
Sept. 11	Joseph Zarlsky, .....	Polish, .....	Miner, .....	27	S.	...	...	Stanton No. 7,...		Killed by fall of slate at face of chamber.
14	Andrew Tompko, .....	Austrian, ...	Laborer, ...	36	M.	1	3	Franklin, .....		Killed by fall of roof at face of chamber.
21	Michael Aureko, .....	Austrian, ...	Engineer, ...	44	M.	1	4	Miners Mills, ...		Killed by falling under trestle. Outside.
29	George Fending, .....	Austrian, ...	Miner, .....	37	M.	1	5	Baltimore Tunnel,		Killed by explosion of blast at face of chamber.
34	Steve Boginski, .....	Russian, ...	Laborer, ...	24	S.	...	...	Stanton No. 7,...		Killed by fall of coal on pillar work.
35	Frank Lapinski, .....	Polish, ...	Miner, .....	29	M.	1	3	Hollenback No. 2,		Killed by fall of roof at face of chamber.
Oct. 11	Harry Emerish, .....	American, ...	Loader, .....	43	S.	...	...	Stanton No. 7,...		Fatally injured. Struck on head by wind-lass at face of chamber.
26	Michael McLaughlin, ...	American, ...	Driver, .....	23	S.	...	...	Maxwell No. 20,		Killed by railroad cars under breaker. Out- Killed by explosion of blast at face of chamber.



TABLE 5.—Non-fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 5	Victor Kakareka, ....	Polish, .....	Miner, .....	25	M.	Stanton No. 7, .....	Luzerne, ...	Face and hands burned by explosion of gas in chamber.
	John Stugenfero, ....	American, ..	Laborer, .....	29	S.	Stanton No. 7, .....		Face and hands burned by explosion of gas in chamber.
7	Benjamin Grouski, ...	Polish, .....	Miner, .....	30	M.	South Wilkes-Barre No. 5		Head injured by debris falling down shaft.
8	John P. Ojitski, ....	Polish, .....	Miner, .....	40	M.	Stanton No. 7, .....		Ribs fractured by fall of roof at face of chamber.
14	John Slovskie, .....	Polish, .....	Runner, .....	17	S.	Hollenback No. 2, .....		Leg fractured. Kicked by a mule on gangway.
21	Christ Ungarit, .....	German, ....	Miner, .....	39	M.	Stanton No. 7, .....		Face and hands burned by explosion of gas in chamber.
	Joseph Zuiks, .....	Lithuanian, ..	Laborer, .....	26	S.	Stanton No. 7, .....		Face and hands burned by explosion of gas in chamber.
25	Michael Miller, .....	Lithuanian, ..	Miner, .....	54	M.	Hollenback No. 2, .....		Back bruised by fall of slate at face of chamber.
27	Stephen Papoga, .....	Polish, .....	Miner, .....	38	M.	Baltimore No. 5, .....		Leg fractured by fall of coal at face of chamber.
30	Thomas Kennedy, ....	American, ..	Slatepicker, .....	15	S.	Sugar Notch No. 9, ....		Ribs fractured by machinery in breaker. Outside.
Feb. 2	Martin Toole, .....	American, ..	Flg runner, .....	21	S.	Sugar Notch No. 9, ....		Small bones in foot fractured by machinery.
3	Felix Freeman, .....	Polish, .....	Loader, .....	26	S.	South Wilkes-Barre No. 5		Hand fractured by falling off car. Outside.
4	John Jeroski, .....	Austrian, ..	Laborer, .....	50	M.	Prospect, .....		Body burned by explosion of blast at face of chamber.
15	Charles Blysek, .....	Polish, .....	Miner, .....	66	M.	Dorrance, .....		Leg fractured by fall of roof at face of chamber.
17	Frank Kobolko, .....	Polish, .....	Miner, .....	35	M.	Prospect, .....		Foot bruised by fall of coal on gangway.
	Frank Metz, .....	American, ..	Driver, .....	18	S.	Prospect, .....		Body bruised by explosion of gas on gangway.
March 6	Edward McCloskey, ..	American, ..	Dumper, .....	19	S.	Empire Washery, .....		Finger cut off by cars. Outside.
9	George Kecher, .....	Russian, ....	Miner, .....	25	S.	Henry, .....		Body bruised by fall of slate at face of
16	John Suckalestie, ....	Polish, .....	Miner, .....	27	S.	Franklin, .....		Skull fractured by cars on gangway.
	Frank Panitska, ....	Polish, .....	Miner, .....	32	M.	South Wilkes-Barre No. 5		Skull fractured by explosion of blast at face of chamber.



March 18	Joseph Tomchick, .....	Polish, .....	Miner, .....	36	M.	Dorrance, .....	Body bruised by explosion of blast at face of chamber.
20	Martin Hoffman, .....	American, ..	Table cleaner, ..	20	S.	Baltimore Tunnel, .....	Face burned by electric wire. Outside.
23	Thomas E. Price, .....	Welsh, .....	Laborer, .....	36	M.	South Wilkes-Barre No. 5	Face burned by explosion of gas in cross-cut.
25	David Williams, .....	Welsh, .....	Engineer, .....	35	M.	Hollenback No. 2, .....	Thumb cut off by machinery. Outside.
26	Frank Robleskie, .....	Slavonian, ..	Laborer, .....	33	M.	Stanton No. 7, .....	Face burned by explosion of gas at face of chamber.
April 7	Joseph Koseck, .....	Russian, .....	Driver, .....	18	S.	Henry, .....	Arm fractured by cars on plane.
8	Worceck Slogloff, ..	Polish, .....	Miner, .....	45	M.	Franklin, .....	Body bruised by explosion of blast at face of chamber.
9	Thomas Toole, .....	Irish, .....	Miner, .....	53	M.	Maxwell No. 29, .....	Body burned by explosion of gas at face of chamber.
10	Peter Rasiemounz, ...	Polish, .....	Miner, .....	44	M.	Sugar Notch No. 9, .....	Finger cut off by piece of coal sliding on him in chamber.
	Charles Callunda, ...	Polish, .....	Miner, .....	32	M.	Stanton No. 7, .....	Leg fractured by explosion of blast at face of chamber.
16	John S. Davis, .....	American, ...	Laborer, .....	34	M.	Stanton No. 7, .....	Coal mine fractured by cars on gangway.
17	George Varaskie, .....	Slavonian, ...	Laborer, .....	66	M.	Baltimore Tunnel, .....	Thigh fractured by fall of roof on pillar work.
19	John Souis, .....	Russian, .....	Footman, .....	38	S.	Dorrance, .....	Ankle fractured by prop falling on him on slope.
22	Stanley Sortika, .....	Polish, .....	Miner, .....	32	S.	Sugar Notch No. 9, .....	Arm fractured by explosion of blast at face.
24	Anthony Staurits, ...	Lithuanian, ..	Miner, .....	45	M.	Stanton No. 7, .....	Thigh fractured by explosion of blast at face of chamber.
	Michael Cox, .....	Irish, .....	Runner, .....	37	S.	Franklin, .....	Face burned by explosion of gas on plane.
	John Fuleck, .....	Polish, .....	Laborer, .....	53	M.	Franklin, .....	Head burned by explosion of gas on plane.
26	William Ruddick, .....	English, .....	Miner, .....	57	M.	Hollenback No. 2, .....	Thigh fractured by fall of slate at face of chamber.
27	Enoch C. Williams, ...	Welsh, .....	Miner, .....	53	M.	Maxwell No. 29, .....	Arm fractured by fall of coal at face of chamber.
May 4	George Movach, .....	Polish, .....	Laborer, .....	23	S.	Sugar Notch No. 9, .....	Foot fractured by fall of slate on plane.
6	Edward Conway, .....	American, ...	Driver, .....	18	S.	Maxwell No. 29, .....	Squeezed about abdomen by cars on gangway.
7	Charles Ostronskie, ...	Polish, .....	Miner, .....	46	M.	Dorrance, .....	Skull fractured by cars on slope.
	Edward McCallick, ...	Irish, .....	Laborer, .....	40	M.	Baltimore No. 5, .....	Head and hands burned by explosion of gas at face of chamber.
	Patrick Conwell, .....	Irish, .....	Laborer, .....	50	M.	Baltimore No. 5, .....	Face and hands burned by explosion of gas at face of chamber.
June 10	Andrew Harock, .....	Slavonian, ...	Timberman, ...	28	M.	Red Ash No. 2, .....	Back bruised by being struck by timber in chamber.
18	Frank Daniels, .....	Lithuanian, ..	Miner, .....	50	M.	Prospect, .....	Foot bruised by fall of coal at face of chamber.
	George Petroskie, ...	Slavonian, ...	Miner, .....	54	M.	Maxwell No. 29, .....	Leg fractured by explosion of blast at face of chamber.
19	Joseph Cobble, .....	Lithuanian, ..	Miner, .....	38	M.	South Wilkes-Barre No. 5	Hand bruised by explosion of blast at face of chamber.
	John Bailo, .....	Austrian, ...	Miner, .....	29	M.	Henry, .....	Leg fractured by explosion of blast at face of chamber.
22	John Stralski, .....	Lithuanian, ..	Laborer, .....	60	M.	Stanton No. 7, .....	Thighs bruised. Struck by a piece of coal while standing on loading platform.

Luzerne, ...

TABLE 5 —Continued

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
June 22	Joseph Rhusaitus, ....	Lithuanian, ....	Miner, .....	40	M.	South Wilkes-Barre No. 5	Luzerne, ...	Skull fractured by explosion of blast at face of chamber.
23	Peter Pazruczek, ....	Polish.....	Miner, .....	28	M.	Stanton No. 7, .....		Foot fractured by fall of roof at face of chamber.
July 10	John Barzik, .....	Polish.....	Miner, .....	28	M.	Maxwell No. 20, .....		Hands and face burned by explosion of gas at face of chamber.
15	Louis Zubrick, .....	Polish.....	Laborer, .....	25	S.	Maxwell No. 20, .....		Face burned by explosion of gas at face of chamber.
22	Wassil Lubruskie, ....	Russian, ...	Miner, .....	32	S.	Prospect, .....		Ribs fractured by fall of coal at face of chamber.
27	John Hanza, .....	Slavonian, ..	Miner, .....	44	M.	Baltimore No. 5, .....		Knee fractured by explosion of blast at face of chamber.
27	John Nacada, .....	Polish.....	Laborer, .....	24	S.	Baltimore No. 5, .....		Knee fractured by cars on gangway.
30	Caustine Obliska, ....	Polish.....	Miner, .....	35	M.	Stanton No. 7, .....		Leg fractured by explosion of blast at face of chamber.
Aug. 6	Simon Grablowskie, ..	Lithuanian, ..	Miner, .....	50	M.	Maxwell No. 20, .....		Ribs fractured by prop falling on him at face of chamber.
9	Joseph Gablueski, ....	Polish.....	Miner, .....	44	M.	Hillman Veib, .....		Leg and arm fractured by explosion of blast at face of chamber.
18	John Robel, .....	Polish.....	Laborer, .....	30	M.	Maxwell No. 20, .....	Leg fractured by loose coal rolling on him in chamber.	
20	Charles Richard, ....	German.....	Laborer, .....	55	M.	Dorrance, .....	Leg fractured by being struck by a lever at face of chamber.	
23	Robert Miles, .....	American, ..	Craneman, .....	42	M.	Empire Washery, .....	Elbow fractured by falling off a steam shovel, Outside.	
25	Paul Sosnoski, .....	Polish.....	Miner, .....	26	M.	Maxwell No. 20, .....	Face and hands burned by explosion of gas in cross-cut.	
Andrew Tomales, ....	Lithuanian, ..	Laborer, .....	27	S.	Maxwell No. 20, .....	Face and hands burned by explosion of gas in cross-cut.		
7	August Smith, .....	Lithuanian, ..	Miner, .....	43	M.	Sugar Notch No. 9, ....	Arm fractured by explosion of blast at face of chamber.	
8	William Wisniewskie, ..	Polish.....	Driver, .....	24	M.	Henry, .....	Ribs fractured by being kicked by a mule in chamber.	
Joseph Yakimaites, ..	Lithuanian, ..	Miner, .....	36	M.	Sugar Notch No. 9, ....	Fingers cut off by piece of coal rolling on him in chamber.		
9	Michael Marronock, ..	Russian, ...	Laborer, .....	30	M.	Prospect, .....	Pelvis and wrist fractured by fall of coal at face of chamber.	

Sept.	6	Daniel Callahan, .....	Irish, .....	Footman, .....	27 M.	Hollenback No. 2, .....	Chest squeezed between car and rib on plane.
	20	James Dougherty, .....	Irish, .....	Miner, .....	39 M.	Baltimore Tunnel, .....	Leg bruised by cars on slope.
		Patrick Foy, .....	Irish, .....	Laborer, .....	37 M.	Baltimore Tunnel, .....	Back bruised by cars on slope.
		Peter Maskutes, .....	Lithuanian, .....	Miner, .....	40 M.	Baltimore Tunnel, .....	Head bruised by fall of coal at face of chamber.
	21	John Morris, .....	American, .....	Pumpman, .....	28 S.	Warrior Run, .....	Ankle fractured by fall of roof at face of chamber.
		Patrick Brislin, .....	Irish, .....	Mason, .....	55 M.	Warrior Run, .....	Ankle fractured by fall of roof at face of chamber.
	22	Michael Veldnes, ...	Polish, .....	Laborer, .....	21 S.	Franklin, .....	Ankle fractured by fall of roof at face of chamber.
	23	Michael Morechan, ...	Greek, .....	Laborer, .....	42 M.	Empire Washery, .....	Leg fractured by cars on culm bank. Outside.
	23	George Sokol, .....	Russian, .....	Miner, .....	25 S.	Dorrance, .....	Leg fractured by fall of coal at face of chamber.
	29	John Washteskie, ...	Polish, .....	Miner, .....	25 M.	Sugar Notch No. 9, ....	Face and hands burned by explosion of gas in chamber.
Oct.	2	Joseph Redovich, ....	Russian, .....	Miner, .....	29 M.	Dorrance, .....	Legs fractured by fall of coal at face of chamber.
		Frank Grant, .....	Italian, .....	Laborer, .....	28 M.	Stanton No. 7, .....	Ankle fractured by cars under breaker. Outside.
	4	Andrew Witka, .....	Russian, .....	Miner, .....	38 M.	Hollenback No. 2, .....	Body bruised by explosion of blast at face of chamber.
	5	James Ashford, .....	English, .....	Laborer, .....	74 M.	Baltimore No. 5, .....	Ankle bruised by cars on gangway.
	6	George Codrige, ....	Slavonian, .....	Miner, .....	48 M.	Hollenback No. 2, .....	Body bruised by explosion of blast at face of chamber.
	13	Henry Williams, ....	Welsh, .....	Rope-splinter, ....	43 S.	Maxwell No. 20, .....	Leg fractured by being struck by a rope on plane.
	20	Adam Grayaskie, ....	Lithuanian, .....	Miner, .....	38 M.	Maxwell No. 20, .....	Hands and face burned by explosion of gas at face of chamber.
		Joseph Demans, ....	Lithuanian, .....	Laborer, .....	18 S.	Maxwell No. 20, .....	Hands and face burned by explosion of gas at face of chamber.
	21	Heromen Kleposki, ...	Russian, ...	Miner, .....	32 M.	South Wilkes-Barre No. 5	Thigh fractured by fall of roof at face of chamber.
	25	Anthony Hudeck, .....	Slavonian, ...	Laborer, .....	29 M.	Prospect, .....	Knee fractured by cars at foot of shaft.
	30	Joseph Tomiske, ....	Polish, .....	Miner, .....	29 S.	South Wilkes-Barre No. 5	Severely injured about body by explosion of blast at face of chamber.
Nov.	5	Joseph Segitze, .....	Russian, ...	Runner, .....	29 S.	Henry	Pelvis fractured by cars in chamber.
		Arthur Thomas, ....	American, ...	Driver, .....	27 S.	South Wilkes-Barre No. 5	Leg fractured by cars on gangway.
	8	Andrew Konnick, ....	American, ...	Engineer, .....	25 S.	Dorrance, .....	Legs bruised by fall of coal at face of chamber.
	13	Casner Krattstumes, ...	Lithuanian, ...	Miner, .....	52 M.	Baltimore No. 5, .....	Leg fractured by fall of coal at face of chamber.
	15	John Babula, .....	Polish, .....	Miner, .....	23 M.	Stanton No. 7, .....	Fingers cut off by an axe in airway.
	23	Andrew Frantz, ....	Austrian, ...	Loader, .....	44 M.	Franklin, .....	Head bruised by falling off railroad car. Outside.
	26	Martin Polnuskas, ....	Polish, .....	Miner, .....	45 M.	Prospect, .....	Leg and arm fractured by fall of roof at face of chamber.
Dec.	3	Michael Murray, ....	American, ...	Statepicker, ....	14 S.	Baltimore Tunnel, .....	Wrist fractured by falling while trying to get on a box car. Outside.
	6	John McBride, .....	Polish, ....	Runner, .....	25 S.	Hollenback No. 2, .....	Fingers crushed by cars on gangway.
	8	Adam Frankoskie, ....	Polish, ....	Miner, .....	26 M.	Red Ash No. 2, .....	Leg fractured by flying coal from a runaway trip on gangway.

TABLE 5.—Continued

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Dec. 9	Adam Gavrousky, ...	Polish, .....	Miner, .....	41	M.	Stanton No. 7, .....		Toes crushed by piece of coal rolling on him in chamber.
13	Charles Lloyd, .....	Welsh, .....	Machinist, .....	42	M.	Hollenback No. 2, .....	Luzerne, ...	Skull fractured. Struck by piece of coal that fell from ascending cage. Outside.
29	John Washouck, .....	Austrian, ..	Miner, .....	23	M.	Maxwell No. 20, .....		Leg fractured by fall of coal at face of chamber.
31	John Toole, .....	American, ..	Headman, .....	24	S.	Sugar Notch No. 9, ....		Toe fractured by piece of coal falling on him. Outside.

## CONDITION OF COLLIERIES

## LEHIGH AND WILKES-BARRE COAL COMPANY

Hollenback No. 2, South Wilkes-Barre No. 5, Stanton No. 7, Sugar Notch No. 9 and Maxwell No. 20 Collieries.—Ventilation, roads, drainage and condition as to safety, good.

## LEHIGH VALLEY COAL COMPANY

Franklin, Dorrance, Prospect, Henry and Warrior Run Collieries.—Ventilation, roads, drainage and condition as to safety, good.

## DELAWARE AND HUDSON COMPANY

Baltimore No. 5 and Baltimore Tunnel Collieries.—Ventilation, roads, drainage and condition as to safety, good.

## WILKES-BARRE ANTHRACITE COAL COMPANY

Hillman Vein Colliery.—Ventilation, roads, drainage and condition as to safety, good.

## RED ASH COAL COMPANY

Red Ash Nos. 1 and 2 Collieries.—Ventilation, roads and drainage, fair. Condition as to safety, good.

## PITTSTON COAL MINING COMPANY

Hadleigh Colliery.—Ventilation, roads and drainage, fair. Condition as to safety, good.

## CAMPBELL AND JOHNS

Miners Mills Colliery.—Ventilation, roads and drainage, fair. Condition as to safety, good.

## DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Pettebone Nos. 3 and 4 Collieries.—Ventilation, roads, drainage and condition as to safety, good.

## IMPROVEMENTS

## LEHIGH AND WILKES-BARRE COAL COMPANY

Hollenback No. 2 Colliery.—Inside: Completed No. 39 tunnel, Baltimore to five foot; tunnel. Ross to Red Ash, 5th East, No. 6 plane; No. 41 tunnel, Hillman to Kidney; and No. 42 tunnel, Stanton to Five Foot vein.

Outside: Installed a 24 by 48 inch hoisting engine for No. 3 plane.

South Wilkes-Barre No. 5 Colliery.—Completed No. 32 tunnel, Abbott to Hillman; rock plane, Hillman to Kidney; and No. 33 tunnel, Stanton to Baltimore vein.

Stanton No. 7 Colliery.—Completed No. 20 tunnel, Abbott to No. 1 vein; rock plane, Abbott to No. 1 vein; No. 21 tunnel, Top Red



Ash to Ross; rock plane, Hillman to No. 17 tunnel; tunnel, Abbott to Abbott, 1st East; No. 22 tunnel, Top to Bottom Red Ash; tunnel, Ross to Top Red Ash, and No. 23 tunnel, Abbott to Kidney vein. Extended No. 17 tunnel to Kidney. Drove 10-inch bore hole to the Baltimore vein.

Sugar Notch No. 9 Colliery.—Completed No. 31 tunnel. Twin to Hillman, and a tunnel from Station to Five Foot vein.

Maxwell No. 20 Colliery.—Completed a tunnel from Red Ash to Red Ash, and No. 31 tunnel, Red Ash to Ross vein.

Empire Washery.—Installed pea and chestnut spirals.

#### LEHIGH VALLEY COAL COMPANY

Dorrance Colliery.—Inside: Two electric motors were placed in service in the Lance, Cooper and Bennett veins. A 4-inch drainage bore-hole was drilled from the Baltimore to the Red Ash to drain silt water. No. 26 tunnel was driven from the Bowkley to Abbott vein, 210 feet long. No. 27 tunnel was driven from No. 21 tunnel into Lance vein. No. 24 slope, in the Red Ash vein, was graded and tunnel commenced through the anticlinal at the foot of the slope, in order to facilitate haulage. Completed No. 24 haulage, Cooper to Lance vein.

Outside: Installed an additional 300 horse power boiler in boiler plant. A spray system was placed in breaker, and a pump installed, and pump line laid from pump to breaker, and pump house erected near reservoir. The construction of a steel fuel conveyor was continued. A fence was built around tracks, and bridge constructed over tracks near head of shaft for traveling way and safety.

Prospect Colliery.—Electric cables in shaft were renewed. Considerable grading was done at the head of Nos. 26 and 29 slopes in the Skidmore vein. A 15-degree rock slope, 80 feet long, was sunk through fault from Lower Baltimore to Upper Baltimore vein, for a return airway. Two bore holes were drilled from the Five Foot vein to drain water from Prospect Hillman slope workings to the Oakwood pump. Edison electric safety lamps were purchased for use in the Red Ash vein. Concrete and steel timbering at foot of Red Ash shaft continued.

Outside: Steam lines were recovered. The fuel line from breaker to boiler house was rebuilt. A new roof was placed on the boiler house. The supply yard was rearranged. Steel bents were put under main conveyor from the Prospect shaft to the head of the breaker. A condenser was placed in the river pump-house. The old boiler house at Oakwood shaft was remodeled for a washhouse and lamphouse.

Henry Colliery.—No. 74 tunnel from the Hillman to the Bowkley vein was completed, and a 30-degree rock plane 152 feet long was driven for a second opening. A 45-degree rock plane was driven from the Five Foot to the Hillman vein, the Wyoming Five Foot slope, for a return airway, and to improve the ventilating conditions. The concrete hospital at the head of No. 11 slope was completed. A concrete roof was constructed over the barn in the Red Ash vein, west of the shaft. A 10-degree rock plane, from the Five Foot to the Hillman vein, was started. An air shaft was sunk and concreted to the Hillman vein, Prospect slope, for an intake. Considerable rock grading was done on No. 39 slope in the Skidmore vein, to improve haulage conditions. The Henry shaft was abandoned.



Outside: Constructed a concrete and hollow tile washhouse for employes. Installed a silent chain for operating the overwinding device on the shaft engine. A feed pump of large capacity was installed in the boiler house, and covered the feed water lines. Completed a concrete curbing around the colliery yard.

#### PITTSTON COAL MINING COMPANY

Hadleigh Colliery.—Outside: Completed an 8-inch steam line, 400 feet long, equipped with steel flanges, from boiler house to shaft engines and breaker. All lines have been covered with 8 per cent. magnesia covering. Boilers have been reconstructed and rebuilt. Installed small conveyor line for conveying fuel to boiler house. Also installed one GE D. C. current generator, type MP, connected to Harrisburg engine, and one 9 by 14 inch saddle tank locomotive. Constructed a brick building 18 by 60 feet, for generator room, supply store and office. Also reconstructed ambulance house. Completed a 4 inch line 1200 feet long, for fresh water supply to boiler house.

Inside: Installed electric lights throughout the mines; also two 7-ton Baldwin electric locomotives, with overhead trolley; and hung 6000 feet of 2-0 trolley wire. Bonded all rails where locomotives travel. Installed one 100-H. P. D. C. Lidgerwood electric hoist on Red Ash slope, one Goyne duplex plunger pump at foot of Twin slope, and one Scranton duplex plunger pump at foot of Red Ash slope.

#### DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Pettebone Nos. 3 and No. 4 Collieries.—Completed the shafts to the Red Ash vein, a depth of 1086 feet and 1098 feet. Installed the necessary hoisting equipment and ventilating fans.

### MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held May 18 and 19 in the Y. M. C. A. Building, Wilkes-Barre. The Board of Examiners was composed of Thomas J. Williams, Mine Inspector; Samuel R. Morgan, Superintendent, Wilkes-Barre; Patrick McGrane, Miner, Sugar Notch; William H. Chappell, Miner, Wilkes-Barre.

The following persons passed a satisfactory examination and were granted certificates.

#### MINE FOREMEN

Josiah Beech, Alfred W. Davis, Lewis J. Jenkins, Edmund P. Thomas, Edwardsville; Edward Finn, Thomas A. Welch, Wilkes-Barre; George McKechnie, Courtdale; William James Williams, Parsons; John Wordoski, Peely; Charles D. Dare, Larksville.

#### ASSISTANT MINE FOREMEN

Edwin B. Charlton, John Crawford, Corey Cannon, David R. Evans, Edward Griffiths, Charles F. Hoffman, John Kovalick, James G. Morgan, James J. McGrath, Roger Sayes, Wilkes-Barre; Daniel Blaine, Larksville; John Bonsall, Plains; John Morris, William Price, Edwardsville; Leonard Payne, Askam.



## EIGHTH DISTRICT

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LUZERNE AND LACKAWANNA COUNTIES

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Pittston, Pa., February 18, 1916.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor of transmitting herewith the annual report of the Eighth Anthracite District for the year ending December 31, 1915.

Respectfully submitted,

S. J. JENNINGS,

Inspector.

## SUMMARY OF STATISTICS

Number of collieries, .....	15
Number of mines, .....	32
Number of mines in operation, .....	27
Number of tons of coal shipped to market, .....	3,226,006
Number of tons used at mines for steam and heat, .....	430,858
Number of tons sold to local trade and used by employes, .....	96,764
Number of tons produced, .....	3,753,628
Number of tons produced by compressed air machines, .....	.....
Number of tons produced by electrical machines, .....	107,148
Number of persons employed inside of mines, .....	6,749
Number of persons employed outside, .....	1,973
Number of fatal accidents inside of mines, .....	22
Number of fatal accidents outside, .....	2
Number of non-fatal accidents inside of mines, .....	29
Number of non-fatal accidents outside, .....	8
Number of tons of coal produced per fatal accident inside, .....	170,619
Number of tons produced per fatal accident outside, ..	1,876,814
Number of tons produced per fatal accident inside and outside, .....	156,401
Number of persons employed per fatal accident inside, ..	307
Number of persons employed per fatal accident outside, ..	986
Number of persons employed per fatal accident inside and outside, .....	363
Number of persons employed per non-fatal accident inside, .....	233
Number of persons employed per non-fatal accident outside, .....	246
Number of persons employed per non-fatal accident inside and outside, .....	236
Number of wives made widows, .....	17
Number of children made orphans, .....	46
Number of steam locomotives used inside of mines,....	1
Number of steam locomotives used outside, .....	13
Number of compressed air locomotives used inside, ....	6
Number of compressed air locomotives used outside, ...	.....
Number of electric motors used inside, .....	32
Number of electric motors used outside, .....	.....
Number of gasoline locomotives used inside, .....	.....
Number of fans in use, .....	32
Number of furnaces in use, .....	.....
Number of gaseous mines in operation, .....	17
Number of non-gaseous mines in operation, .....	10
Number of new mines opened, .....	.....
Number of old mines abandoned, .....	.....

## TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
Lehigh Valley Coal Company, .....	1,600,081
Forty Fort Coal Company, .....	590,832
Kingston Coal Company, .....	493,235
Mt. Lookout Coal Company, .....	357,033
East Boston Coal Company, .....	210,515
Haddock Mining Company, .....	191,652
Raub Coal Company, .....	167,540
Delaware, Lackawanna and Western Railroad Company,	103,525
Campbell, Johns and Company, .....	39,215
<b>Total, .....</b>	<b>3,753,628</b>

## Production by Counties

Luzerne, .....	3,665,026
Lackawanna, .....	88,602
<b>Total, .....</b>	<b>3,753,628</b>

TABLE B.—Fatal and non-fatal accidents inside and outside of mine s; number of tons of coal produced per accident; number of persons employed; number em ployed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total								
Lough Valley Coal Co., .....	9	.....	9	13	2	15	177,787	2,598	733	3,361	281	.....	194	286
Porter Coal Co., .....	4	1	5	2	1	3	147,708	1,229	295	1,524	307	295	614	295
Kingston Coal Co., .....	3	.....	3	2	.....	2	164,411	851	284	1,135	284	.....	425	.....
Mt. Lookout Coal Co., .....	1	.....	1	2	.....	2	357,033	668	158	826	668	.....	334	79
East Boston Coal Co., .....	2	1	3	2	1	3	105,257	435	161	596	217	161	217	161
Haddock Mining Co., .....	1	.....	1	1	.....	1	47,913	360	120	480	360	.....	90	.....
Raub Coal Co., .....	1	.....	1	4	.....	4	191,652	356	126	482	356	.....	118	63
Campbell, Johns and Co., .....	1	.....	1	3	2	5	167,540	62	28	90	62	.....	62	.....
Miscellaneous Companies, .....	.....	.....	.....	1	.....	1	39,215	200	68	328	.....	.....	.....	.....
Totals and averages, .....	22	2	24	29	8	37	170,619	6,749	1,973	8,722	307	986	233	246



TABLE C.—Causes of Fatal Accidents Inside and Outside of Mines

	Months												Percentages
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
<b>Inside</b>													
Falls of coal, .....	...	...	...	...	...	1	1	...	...	...	...	1	1
Falls of slate, .....	...	...	...	...	...	1	...	...	...	...	...	2	2
Falls of roof, .....	1	...	...	1	1	4	...	...	1	...	...	...	10
Mine cars, .....	...	...	1	1	...	...	...	...	...	1	...	1	3
Blasts, premature and otherwise, .....	...	...	1	2	...	1	...	...	...	1	...	...	5
Rush of gob, .....	...	...	...	...	...	...	...	...	...	1	...	...	1
<b>Totals, .....</b>	<b>1</b>	<b>...</b>	<b>1</b>	<b>4</b>	<b>1</b>	<b>6</b>	<b>1</b>	<b>...</b>	<b>1</b>	<b>3</b>	<b>...</b>	<b>4</b>	<b>22</b>
<b>Outside</b>													
Jumping from ash cart, .....	...	...	...	...	...	...	1	...	...	...	...	...	1
Falling from coal wagon, .....	...	...	...	...	...	...	...	...	...	...	...	1	1
<b>Totals, .....</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>1</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>1</b>	<b>2</b>
<b>Grand totals inside and outside, .....</b>	<b>1</b>	<b>...</b>	<b>1</b>	<b>4</b>	<b>1</b>	<b>6</b>	<b>2</b>	<b>...</b>	<b>1</b>	<b>3</b>	<b>...</b>	<b>5</b>	<b>24</b>

TABLE D.—Causes of Non-Fatal Accidents Inside and Outside of Mines

	Months												Percentages
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
<b>Inside</b>													
Falls of coal, .....	1	...	...	...	...	...	...	...	1	...	1	...	3
Falls of slate, .....	1	...	1	...	...	...	...	...	...	...	...	...	2
Falls of roof, .....	...	1	3	...	1	...	...	...	1	1	...	...	4
Mine cars, .....	1	...	...	...	3	...	1	4	...	...	...	...	10
Explosions of powder and dynamite, .....	...	...	...	...	...	...	...	...	1	...	...	1	2
Blasts, premature and otherwise, .....	...	...	...	...	1	...	...	...	...	...	...	...	1
Falling timber, .....	...	...	...	...	...	...	1	...	1	...	...	...	2
Shaft carriage, .....	...	...	...	...	...	...	...	...	...	...	...	1	1
Mules, .....	...	...	1	...	...	...	...	...	...	...	...	...	1
<b>Totals, .....</b>	<b>3</b>	<b>1</b>	<b>5</b>	<b>...</b>	<b>5</b>	<b>...</b>	<b>2</b>	<b>4</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>29</b>
<b>Outside</b>													
Cars, .....	1	...	...	...	...	...	...	...	...	1	1	...	3
Machinery, .....	...	...	...	...	1	...	...	...	1	...	...	...	2
Falling in breaker, ..	...	...	...	...	...	...	...	...	...	...	1	...	1
Mules, .....	1	...	...	...	...	...	...	1	...	...	...	...	2
<b>Totals, .....</b>	<b>2</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>1</b>	<b>...</b>	<b>...</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>...</b>	<b>8</b>
<b>Grand totals inside and outside, .....</b>	<b>5</b>	<b>1</b>	<b>5</b>	<b>...</b>	<b>6</b>	<b>...</b>	<b>2</b>	<b>5</b>	<b>6</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>37</b>

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
Inside													
Miners, .....			1	2	....	3	1	....	1	2	....	1	11
Miners' laborers, .....	1	....		1	1	3		....			....	1	7
Drivers and runners, .....			....		....	....	....	....		1	....	1	2
Doorboys and helpers, .....				1	....	....	1	....			....		1
Timbermen, .....									1			1	1
Totals, .....	1	....	1	4	1	6	1	....	1	3	....	4	22
Outside													
Breaker bosses, .....						....	1	....		....	....	....	1
Teamsters, .....												1	1
Totals, .....						....	1	....		....	....	1	2
Grand totals inside and outside, .....	1	....	1	4	1	6	2	....	1	3	....	5	24

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
Inside													
Miners, .....	2	1	1	.....	2	.....	.....	.....	2	1	1	1	11
Miners' laborers, .....	.....	.....	3	.....	.....	.....	.....	1	1	.....	.....	.....	6
Drivers and runners, .....	.....	.....	1	.....	2	.....	2	2	1	.....	.....	.....	8
Doorboys and helpers, .....	1	.....	1	.....	1	.....	.....	.....	2	.....	.....	.....	2
Footmen, .....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	1
Headmen, .....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
Totals, .....	3	1	5	.....	5	.....	2	4	5	1	1	2	29
Outside													
Loaders, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1
Jig runners, .....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Blacksmiths and carpenters,...	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	2
Engineers and firemen, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
Slatepickers (boys), .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1
Drivers, .....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
Laborers, .....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Totals, .....	2	.....	.....	.....	1	.....	.....	1	1	1	2	.....	8
Grand totals inside and outside, .....	5	1	5	.....	6	.....	2	5	6	2	3	2	37

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months											
	Totals	December	November	October	September	August	July	June	May	April	March	February
American, .....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
English, .....	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
Irish, .....	1	.....	.....	.....	.....	1	.....	3	.....	.....	.....	.....
Polish, .....	7	1	.....	.....	.....	1	.....	.....	.....	1	.....	1
Italian, .....	3	.....	.....	1	1	.....	.....	1	.....	.....	.....	.....
Slavonian, .....	3	1	.....	1	.....	.....	.....	.....	.....	1	.....	.....
Lithuanian, .....	4	.....	.....	.....	.....	.....	1	1	1	1	.....	.....
Russian, .....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Greek, .....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals, .....	24	5	.....	3	1	.....	2	6	1	4	1	1

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months											
	Totals	December	November	October	September	August	July <sup>a</sup>	June	May	April	March	February
American, .....	7	.....	1	.....	1	1	2	.....	1	.....	.....	1
English, .....	2	.....	.....	1	.....	.....	.....	.....	1	.....	.....	1
Irish, .....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
German, .....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Polish, .....	6	1	1	1	.....	1	.....	.....	1	.....	.....	.....
Hungarian, .....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Italian, .....	7	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....
Slavonian, .....	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	1
Lithuanian, .....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Austrian, .....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Totals, .....	37	2	3	2	6	5	2	.....	6	.....	5	5

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Leligh Valley Coal Co.															
Exeter Colliery:															
Red Ash,	Shaft,...	Gaseous,	2 fans,...	20	6.8	5.10	76	1.2	Guibal,	Steam,.....	4	102,707	51,485	103,200	153
Pittston,	Shaft,...	Gaseous,	Fan,.....	20	6.8	5.10	76	1.8	Guibal,	Steam,.....	5	97,007	70,780	104,463	102
Knights,	Shaft,...	Gaseous,	Fan,.....	20	5.11	5.11	60	1	Guibal,	Steam,.....	4	72,874	163,912	82,137	194
Maitly Colliery:															
No. 2,	Shaft,...	Gaseous,	2 fans,...	25	8.11	6.10	72	3	Guibal,	Steam,.....	10	158,760	129,724	138,520	164
Four Foot,	Slope,...	Non-gas.,	Fan,.....	12	5.11	5.8	82	2.5	Guibal,	Steam,.....	2	63,125	48,720	65,480	21
Seneca Colliery:															
Twin,	Shaft,...	Gaseous,	Fan,.....	24	8	6	74	2.2	Guibal,	Steam,.....	5	150,000	90,000	165,000	220
Coxey,*	Shaft,...	Gaseous,	Fan,.....	20	6	6	80	1.2	Guibal,	Steam,.....	1	42,000	75,000	104,000	126
Pittston,	Shaft,...	Gaseous,	Fan,.....	20	6	6	50	.8	Guibal,	Steam,.....	1	40,000	18,000	41,000	38
William A. Colliery:															
William A.,	Shaft,...	Non-gas.,	Fan,.....	18	5.3	5.9	75	.7	Guibal,	Steam,.....	4	35,000	59,000	70,000	116
Babylon,*	Shaft,...	Non-gas.,	Fan,.....	20	5.3	5.9	80	1	Guibal,	Steam,.....	2	30,000	51,900	76,000	85
No. 10,	Tunnel,...	Non-gas.,	Fan,.....	8.6	2.3	2.3	200	1.2	Guibal,	Steam,.....	2	58,650	50,550	76,000	46
Westmoreland Colliery:															
No. 1,	Tunnel,...	Gaseous,	Fan,.....	20	6	6	79	2	Guibal,	Steam,.....	5	113,000	95,000	117,000	290
Stevens Colliery:															
No. 1,*	Shaft,...	Gaseous,	Fan,.....	20	6	7	70	.6	Guibal,	Steam,.....	3	64,700	45,800	65,500	54
No. 2,	Shaft,...	Gaseous,	Fan,.....	20	5	6	65	.6	Guibal,	Steam,.....	3	72,500	55,900	73,400	114

\*Table.

Forty Fort Coal Co. Forty Fort Colliery: No. 1, .....	Shaft,.....	Gaseous,...	2 fans, .. {	20 20	7 7	6.8 6	96 90	2.2 1.8	} Gulbal, .....	Steam,.....	10	165,893	142,060	193,826	611
Harry E. Colliery: No. 1, .....	Shaft,.....	Gaseous,...	Fan, .....	25	8	6.10	75	2	Gulbal, .....	Steam,.....	12	273,282	258,045	273,927	588
Baby, .....	Tunnel,...	Gaseous,...	Fan, .....	13.4	3.8	3.2	85	1	Gulbal, .....	Steam,.....	2	20,450	17,500	21,450	30
Kingston Coal Co. Kingston No. 1 Colliery: No. 1, .....	Shaft,.....	Gaseous,...	2 fans, .. {	25	8	8	74	2.5	} Gulbal, .....	Steam,.....	9	251,300	232,700	252,800	456
No. 4, .....	Shaft,.....	Gaseous,...	2 fans, .. {	25	8	8	78	2	} Gulbal, .....	Steam,.....	6	168,100	142,450	198,860	395
Mt. Lookout Coal Co. Mt. Lookout Colliery: No. 1, .....	Shaft,.....	Gaseous,...	2 fans, .. {	20	7	6.10	80	1.6	} Gulbal, .....	Steam,.....	15	174,702	153,187	200,617	608
East Boston Coal Co. East Boston Colliery: No. 1, .....	Shaft,.....	Gaseous,...	Fan, .....	20	6.3	5.4	84	1.7	} Gulbal, .....	Steam,.....	11	173,000	142,000	175,000	553
Haddock Mining Co. Black Diamond Colliery: No. 1 Shaft, .....	Shaft,.....	Gaseous,...	Fan, .....	25	7	7	62	1.5	Gulbal, .....	Steam,.....	8	125,000	115,000	129,000	360
Raub Coal Co. Louise Colliery: No. 1, .....	Tunnel, ..	Gaseous,...	Fan, .....	13	5	5	120	.8	Gulbal, .....	Steam,.....	4	30,600	29,600	32,900	116
Nonitake, .....	Tunnel, ..	Non-gas, ..	Natural, ..	...	...	...	...	...	...	...	4	23,500	23,500	24,100	16
Ross, Ash, .....	Slope, ..	...	Natural, ..	...	...	...	...	...	...	...	4	23,900	23,900	24,500	89
Ross, .....	Slope, ..	...	Natural, ..	...	...	...	...	...	...	...	2	13,700	13,100	14,200	29
Sand, .....	Slope, ..	...	Natural, ..	...	...	...	...	...	...	...	2	13,900	13,500	14,700	47
Delaware, Lackawanna and Western Railroad Co. Pettibone Colliery: No. 1, .....	{ Shaft,....	Gaseous,...	2 fans, .. {	22	6.2	6	120	1.7	} Dickson, ...	Steam, .....	10	173,300	150,100	202,600	367
No. 2, .....	{ Shaft,....	...	...	35	10.1	9.1	52	2.3	} ...	...	...	...	...	...	...
Campbell, Johns and Co. Tro Colliery: No. 1, .....	Tunnel,...	Non-gas,...	Fan, .....	7.6	2.6	2	250	.5	Buffalo, .....	Electricity,...	2	20,000	20,000	22,000	62





TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employees	Total production of coal in tons	Number of days worked	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Lelligh Valley Coal Co.													
Exeter, .....	Luzerne, .....	322,613	58,322	23,124	404,059	234	780	5	2	251,550	292,275	.....	143
Maltby, .....	Luzerne, .....	259,420	38,469	8,576	306,365	251	610	3	4	230,025	144,093	.....	104
Seneca, .....	Luzerne, .....	242,355	32,092	8,576	274,447	224	618	.....	2	395,150	15,000	.....	90
William A., .....	Lackawanna, }	240,686	30,011	8,647	273,355	270	679	.....	5	265,400	21,039	.....	94
Westmoreland, .....	Luzerne, .....	179,816	18,878	6,354	205,048	216	375	.....	.....	92,150	131,825	.....	38
Stevens, .....	Luzerne, .....	101,410	10,236	700	112,346	*	199	1	2	23,925	45,150	.....	30
Totals, .....	.....	1,346,889	198,014	55,178	1,600,081	.....	3,261	9	15	1,207,200	557,987	.....	497
Forty Fort Coal Co.													
Forty Fort, .....	Luzerne, .....	274,428	25,064	4,056	303,548	231	758	1	1	214,900	125,925	.....	87
Harry E., .....	Luzerne, .....	257,123	26,117	4,044	287,284	230	766	4	2	238,375	89,300	.....	85
Totals, .....	.....	531,551	51,181	8,100	590,832	.....	1,524	5	3	453,275	214,325	.....	172
Kingston Coal Co.													
Kingston No. 4, .....	Luzerne, .....	437,335	50,000	5,900	493,235	248	1,135	3	2	519,250	3,100	22,325	101
Mt. Lookout Coal Co.													
Mt. Lookout, .....	Luzerne, .....	308,890	43,846	4,297	357,033	274	826	1	4	243,250	180,400	.....	31
East Boston Coal Co.													
East Boston, .....	Luzerne, .....	149,729	32,384	7,326	189,439	164	563	3	3	146,250	8,600	20,000	91
East Boston Washery, .....	Luzerne, .....	13,169	7,885	222	21,076	326	33	.....	.....	.....	.....	.....	.....
Totals, .....	.....	162,898	40,069	7,548	210,515	.....	596	3	3	146,250	8,600	20,000	91

\*Coal prepared at William A.



TABLE 2.—Part 2  
Number and kinds of boilers and locomotives in use, number of steam engines, pumps, electric dynamos and air compressors in use, etc.

Names of Operators	County	Number of Boilers				Locomotives				Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Gasoline	Steam	Air	Electric						
Lehigh Valley Coal Co., .....	{ Lackawanna, } { Luzerne, } .....	.....	.....	.....	.....	11,153	.....	6	.....	17	11,959	23	26,253	15,344	9	2
Forty Fort Coal Co., .....		.....	.....	14	3,600	3,600	.....	2	.....	1	3,530	8	6,600	4,200	.....	.....
Kingston Coal Co., .....	{ Luzerne, } { Lackawanna, } .....	.....	.....	14	3,900	3,900	.....	1	.....	.....	4,325	.....	6,400	5,400	.....	.....
Mt. Lookout Coal Co., .....		.....	.....	10	2,600	2,600	.....	1	.....	9	2,100	.....	2,750	2,400	.....	.....
East Boston Coal Co., .....		.....	.....	11	2,302	2,302	.....	.....	.....	.....	1,106	.....	4,500	3,000	.....	.....
Haddock Mining Co., .....		.....	.....	15	2,600	2,600	.....	.....	.....	1	3,300	.....	2,800	1,600	.....	.....
Ramb Coal Co., .....		.....	.....	3	900	900	.....	2	.....	.....	840	.....	1,500	1,000	.....	.....
Delaware, Lackawanna and Western Railroad Co., .....		.....	.....	10	1,350	1,350	.....	1	.....	.....	2,861	2	160	160	1	.....
Campbell, Jones and Co., .....		.....	.....	2	200	200	.....	.....	.....	.....	155	.....	100	100	1	.....
Totals, .....	.....	.....	.....	112	23,610	23,610	.....	14	6	32	30,438	53	57,293	32,404	22	12

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside										Outside								Grand total			
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks		All other employes	Total outside	
Lehigh Valley Coal Co., ....	{ Lackawanna, } { Luzerne, .... }	11	62	....	1,143	467	327	31	44	443	....	2,523	....	6	74	112	68	9	18	446	733	3,261	
Forty Fort Coal Co., .....	.....	2	7	11	459	284	152	35	19	73	87	1,229	2	2	31	29	33	54	6	138	295	1,524	
Kingston Coal Co., .....	.....	2	8	10	308	248	124	17	13	17	104	851	1	1	38	30	....	6	31	5	162	284	1,135
Mt. Lookout Coal Co., .....	.....	2	....	4	209	286	25	13	11	49	69	668	1	1	14	24	....	3	3	78	158	826	
East Boston Coal Co., ....	.....	1	....	5	130	120	82	6	8	76	4	435	1	3	20	21	32	4	5	75	161	596	
Haddock Mining Co., ....	{ Luzerne, .... }	1	3	3	112	65	52	8	6	70	40	369	1	1	9	21	27	1	3	57	120	480	
Raub Coal Co., .....	.....	4	3	1	175	73	52	7	5	7	29	356	1	2	10	13	25	9	4	62	126	482	
Delaware, Lackawanna and Western Railroad Co., ....	{ ..... }	1	....	3	88	59	25	8	1	3	72	260	....	1	4	12	....	14	3	34	68	323	
Campbell, Johns and Co., ...	{ ..... }	1	....	....	20	20	12	1	2	6	....	62	1	1	1	3	10	....	1	9	28	90	
Totals, .....	.....	25	86	37	2,644	1,722	851	126	109	744	405	5,749	8	18	293	265	201	169	48	1,063	1,973	8,722	

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked Monthly												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Lehigh Valley Coal Co., .....	{ Lackawanna, .. } { Luzerne, ..... }	16	15	14	23	20	18	18	18	18	22	21	22	225
Forty Fort Coal Co., .....		22	16	15	22	20	17	15	21	21	21	20	20	230
Kingston Coal Co., .....	{ Luzerne, ..... }	19	15	18	22	22	19	17	20	25	24	24	23	248
Mt. Lookout Coal Co., .....		24	19	19	23	24	25	21	24	24	24	23	24	274
East Boston Coal Co., .....		22	18	20	21	21	21	20	21	20	21	20	21	245
Haddock Mining Co., .....		21	22	22	21	20	21	21	19	19	20	19	21	246
Raub Coal Co., .....		23	23	26	22	23	25	25	25	25	23	23	24	287
Delaware, Lackawanna and Western Railroad Co., .....	{ ..... }	13	16	14	22	21	22	13	13	16	21	21	20	212
Campbell, Johns and Co., .....		.....	.....	17	22	24	25	24	25	23	25	24	24	233

TABLE 4.—Fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 5	John Zinavich, .....	Polish, .....	Laborer, .....	30	S.	....	....	Forty Fort, ....		Instantly killed by fall of roof at face of cross-heading.
March 26	Martin Twanski, ....	Slavonian, ..	Miner, .....	25	M.	1	1	Maitby, .....		Fatally injured at face of chamber. He was climbing a hole illegally when the roof collapsed.
April 2	{ George Walconis, .... { John Walconis, ....	Russian, .... Russian, ....	Miner, .....	54 21	M. S.	1 ....	{ ....	Exeter, .....		Fatally injured by blast at face of chamber. The miner was preparing a "combination" charge, consisting of black powder, dynamite and detonator. As the tamping was being forced back in the hole the needle was forced back with it, and the point of needle pierced detonator, causing it to explode.
7	Joseph Miscavage, ....	Lithuanian, ..	Door-tender, ...	60	M.	1	....	Kingston No. 4, ..		Fatally injured by being struck by car on gangway while attempting to open door.
May 29	Julius Nastycoski, ...	Polish, .....	Miner, .....	30	M.	1	2	Kingston No. 4, ..		Killed by fall of roof at face of chamber.
May 27	George Baretich, ....	Lithuanian, ..	Laborer, .....	65	M.	1	....	East Boston, ..	Luzerne, ....	Fatally injured by fall of roof at face of counter gangway.
June 2	Peter Besowkie, ....	Polish, .....	Miner, .....	37	M.	1	4	Maitby, .....		Fatally injured by fall of roof at face of chamber.
11	John Stanchick, .....	Russian, ....	Miner, .....	23	S.	....	....	East Boston, ..		Instantly killed by fall of middle slate at face of chamber.
19	Thomas Mulla, .....	Italian, .....	Miner, .....	33	M.	1	4	Harry E., .....		Fatally injured by blast at face of chamber.
	Andrew Krokoskey, ..	Lithuanian, ..	Laborer, .....	52	M.	1	....	Stevens, .....		Fatally injured by fall of roof at face of pillar.
21	Blagu Barran, .....	Polish, .....	Laborer, .....	19	S.	....	....	Troy, .....		Instantly killed by fall of roof at face of chamber.
30	Joseph Ofcharczlk, ..	Polish, .....	Laborer, .....	42	M.	1	6	Exeter, .....		Instantly killed by fall of roof at face of gangway.
July 14	William Ambrosi, ..	Polish, .....	Miner, .....	31	M.	1	2	Exeter, .....		Fatally injured by fall of middle slate at face of pillar.
15	Michael Casey, .....	Irish, .....	Breaker boss, ..	46	M.	1	6	Harry E., .....		Fatally injured when he jumped from ash cart. Outside.
Sept. 15	Samuel Sepena, .....	Italian, .....	Miner, .....	35	S.	....	....	Maitby, .....		Fatally injured by fall of roof at face of chamber.



Oct.	4	John Shroba, .....	Slavonian, ..	Miner, .....	39	M.	1	4	Louise, .....	<p>Fatally injured by rock that slid from gob at face of gangway. Instantly killed by blast at face of cross-over. Instantly killed by falling under cars on gangway. Fatally injured by fall of top coal at face of chamber. Instantly killed by fall of roof on slope while making repairs. Fatally injured by being caught between rib and car on main road. Car left the track. Fatally injured by falling under coal wagon at breaker. Outside. Instantly killed by fall of roof at face of chamber.</p>
	7	Ismarto Irasimus, ...	Italian, .....	Miner, .....	37	M.	1	5	Harry E., .....	
	13	Luther Hartman, ....	English, ...	Runner, .....	22	S.	....	....	Harry E., .....	
Dec.	2	Frank Luksic, .....	Slavonian, ..	Miner, .....	54	M.	1	3	Black Diamond,	
	9	Con. Spatz, .....	Greek, .....	Timberman, ...	33	M.	1	4	Kingston No. 4,	
	13	Frank Martin, .....	American, ..	Runner, .....	23	M.	1	1	Exeter, .....	
	15	Joseph Mickloskey, ..	Russian, ...	Teamster, .....	49	M.	1	....	East Boston, ..	
	29	David Babachick, ....	Polish, .....	Laborer, .....	45	S.	....	....	Mt. Lookout, ..	

Luzerne, .....

TABLE 5.—Non-fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 12	Thomas O'Malley, ...	American, ..	Blacksmith, .....	64	S.	William A., .....	Lackawanna, ....	Small bone in leg fractured while shoeing mule. Outside.
13	Charles Hungary, ...	Hungarian, ..	Laborer, .....	40	M.	East Boston, .....		Small bone in leg fractured by cars on trestle. Outside.
27	John Lloyd, .....	English, ...	Miner, .....	54	M.	Black Diamond, .....		Shin bone fractured by fall of coal at face of chamber.
29	Martin Casperunis, ..	Lithuanian, ..	Miner, .....	32	S.	Harry E., .....		Leg broken and head lacerated by fall of slate at face of chamber.
Feb. 5	Adolf Pinesky, .....	Italian, .....	Doorboy, .....	16	S.	Mt Lookout, .....		Elbow dislocated. Caught between cars and headblock on gangway.
6	Joseph Mayesick, ....	Slavonian, ..	Miner, .....	29	M.	Kingston No. 4, .....		Leg broken by fall of roof at face of chamber.
March 6	George Sweets, .....	Slavonian, ..	Laborer, .....	20	S.	Maltby, .....		Nose broken by being kicked by mule on chamber road.
19	George Klogo, .....	Slavonian, ..	Runner, .....	23	S.	Maltby, .....		Thigh fractured by fall of roof at face of chamber.
23	Steve Meshon, .....	Slavonian, ..	Laborer, .....	33	M.	Louise, .....		Compound fracture of leg by fall of roof at face of chamber.
25	Adam Stelma, .....	Slavonian, ..	Miner, .....	29	M.	Harry E., .....		Foot crushed by fall of middle slate at face of pillar.
May 26	Jacob Luther, .....	Polish, .....	Laborer, .....	20	S.	Stevens, .....	Luzerne, ....	Arm broken. Caught in jig scraper, line.
10	Custie Nowak, .....	American, ..	Jig runner, .....	19	S.	Mt. Lookout, .....		Right shoulder while coupling cars at foot of slope.
17	Frank Tuck, .....	Italian, .....	Runner, .....	23	S.	Louise, .....		Hips and legs injured by fall of roof at face of chamber.
18	Mike Fatara, .....	Polish, .....	Miner, .....	36	M.	Maltby, .....		Ankle bone broken by coal from blast. He shortened squib.
21	Joseph Orzechowsky, ...	Lithuanian, ..	Miner, .....	30	M.	Exeter, .....		Body squeezed by car while attempting to place it on rails.
26	Mike Yergolinis, .....	Lithuanian, ..	Doortender, .....	17	S.	Seneca, .....		Leg broken by falling timber at foot of slope. Timber was dislodged by runaway car.
July 18	William Cleary, .....	Irish, .....	Runner, .....	35	M.	Louise, .....		
	Robert Williams, ....	American, ..	Driver, .....	19	S.	East Boston, .....		

July	21	Anthony Glogoskie, ..	American, ..	Driver, ..	.....	19	S.	Exeter, ..	.....	Luzerne, ....	Leg broken when car struck head block on gangway.
Aug.	9	Joseph Govich, .....	Lithuanian, ..	Laborer, .....	.....	50	M.	William A., .....	.....	Lackawanna, ...	Arm broken and knee and shoulder dislocated by cars on slope.
	10	Matt Trilop, .....	Lithuanian, ..	Driver, .....	.....	24	S.	Black Diamond, .....	.....	Luzerne, .....	Shoulder dislocated and body bruised by cars on gangway.
	11	Joseph Melesky, .....	Polish, .....	Driver, .....	.....	19	S.	William A., .....	.....	Lackawanna, ...	Wrist dislocated by cars on gangway.
	26	Joseph Johns, Jr., ..	American, ..	Driver, .....	.....	18	S.	Louise, .....	.....	Lackawanna, ...	Arm broken by falling from mule. Out-side.
Sept.	27	Frank Lanawich, ....	Austrian, ..	Laborer, .....	.....	27	M.	East Boston, .....	.....	Lackawanna, ...	Car horn broken by cars on gangway.
	1	Charles Derhamer, ..	American, ..	Carpenter, .....	.....	49	M.	Forty Fort, .....	.....	Lackawanna, ...	Hand severely cut by cross-cut saw in shop.
	9	Andrew Borash, .....	Slavonian, ..	Headman, .....	.....	19	S.	Kingston No. 4, .....	.....	Luzerne, ....	Head, back and hips injured by fall of roof on slope.
	14	George Braska, .....	Slavonian, ..	Driver, .....	.....	25	M.	Maltby, .....	.....	Luzerne, ....	Arm broken by falling off mine car on gangway.
	22	Anthony Bagdon, .....	Lithuanian, ..	Laborer, .....	.....	30	S.	Black Diamond, .....	.....	Lackawanna, ...	Body severely injured and arm broken by fall of coal at face of chamber.
	29	Rudolph Whel, .....	German, .....	Miner, .....	.....	40	M.	Black Diamond, .....	.....	Lackawanna, ...	Ankle bone broken by falling timber at face of chamber.
Oct.	30	John Mitchell, .....	Lithuanian, ..	Miner, .....	.....	54	M.	William A., .....	.....	Lackawanna, ...	Hands, face and legs burned while making a charge of black powder.
	13	Robert Lees, .....	English, ...	Engineer, .....	.....	33	M.	William A., .....	.....	Lackawanna, ...	Leg broken by falling timber.
	26	Stanley Kosloskie, ..	Polish, .....	Miner, .....	.....	39	M.	Troy, .....	.....	Lackawanna, ...	Two ribs broken and head injured by fall of roof at face of chamber.
Nov.	13	Joseph Savage, .....	Polish, .....	Slatepicker, .....	.....	16	S.	Mt. Lookout, .....	.....	Luzerne, ....	Thigh broken. He fell while playing in breaker. Outside.
	15	Frank Deminger, ....	American, ..	Loader, .....	.....	28	S.	Louise, .....	.....	Luzerne, ....	Wrist broken. Cars ran away under breaker. Outside.
	30	Gemio Geovaneni, ....	Italian, .....	Miner, .....	.....	40	M.	Stevens, .....	.....	Luzerne, ....	Leg severely cut by fall of coal at face of pillar.
Dec.	13	Zigmund Tomcavitch, ..	Polish, .....	Footman, .....	.....	25	S.	Mt. Lookout, .....	.....	Luzerne, ....	Leg broken when shaft carriage struck bottom of shaft.
		Stanley Slankibus, ..	Lithuanian, ..	Miner, .....	.....	34	S.	Seneca, .....	.....	Luzerne, ....	Hand severely burned by powder while preparing charge of black powder with naked lamp on his head.

## CONDITION OF COLLIERIES

### LEHIGH VALLEY COAL COMPANY

Exeter, Maltby, Seneca, Westmoreland and Stevens Collieries.—Ventilation, drainage and condition as to safety, good.

William A Colliery.—Ventilation and drainage, good. Condition as to safety, fair.

### FORTY FORT COAL COMPANY

Forty Fort and Harry E. Collieries.—Ventilation, drainage and condition as to safety, good.

### KINGSTON COAL COMPANY

Kingston No. 4 Colliery.—Ventilation, drainage and condition as to safety, good.

### MT. LOOKOUT COAL COMPANY

Mt. Lookout Colliery.—Ventilation, drainage and condition as to safety, good.

### EAST BOSTON COAL COMPANY

East Boston Colliery.—Ventilation, drainage and condition as to safety, good.

### HADDOCK MINING COMPANY

Black Diamond Colliery.—Ventilation, drainage and condition as to safety, fair.

### RAUB COAL COMPANY

Louise Colliery.—Ventilation, drainage and condition as to safety, fair.

### DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Pettebone Colliery.—Ventilation, drainage and condition as to safety, good.

### CAMPBELL, JOHNS AND COMPANY

Troy Colliery.—Ventilation, drainage and condition as to safety, good.

## IMPROVEMENTS

### LEHIGH VALLEY COAL COMPANY

Exeter Colliery.—Tunnel was driven through the anticlinal in the Marcy vein. Rock plane was driven from Red Ash to Fifth vein. Four 4-inch drainage holes were drilled from Marcy vein to Red Ash vein, to be used for drainage purposes. A spray system for

fire protection was installed in the breaker and washery. Repairs to boiler plant were completed. Red Ash shaft engine house was rebuilt with brick and made fireproof. Tile hose house and scale office were erected. Colliery yard was regraded.

**Maltby Colliery.**—The pumping plant at this colliery has been abandoned. The water in the Marcy vein is carried in pipes to the lower elevation and forced up through an 8-inch bore hole to the Six Foot vein. It then flows to bore holes which were put through the barrier pillar to the workings of the Henry colliery, where it is pumped to the surface. A slope is being sunk in the abandoned Six Foot workings, Fuller shaft. Until recently these workings were under water. A Morgan-Gardner undercutting machine was installed in the Top Red Ash split. A spray system was installed in the breaker for fire protection. A concrete reservoir having a capacity of 50,000 gallons, together with a pumping plant, was installed near the breaker, to furnish water for the fire system. A steam shovel is at work picking up the culm bank at the Fuller colliery. A plane was constructed at the breaker and a locomotive track constructed for the purpose of transporting the culm to the breaker.

**Seneca Colliery.**—Two tunnels were driven from the bottom split of the Marcy vein to the top split. Two 7½-ton Jeffery electric motors were installed in the Clarke vein. One 6-inch bore hole was drilled through the barrier pillar to the workings of the Stevens Colliery in the Marcy vein. A Jeanesville pump was installed and a fireproof pumphouse erected at the Twin shaft to supply the breaker with water. A Pennsylvania crusher was installed at the breaker to crush the refuse for silting in the Marcy vein. Safety automatic gates were installed at Twin shaft. Colliery yard was regraded.

**William A. Colliery.**—Electric haulage was installed from No. 10 tunnel to Evan's Farm section and the system was rebuilt to William A. shaft. This will allow all coal to be transported underground instead of dumping part of the output into railroad cars for shipment to the breaker for preparation. A new concrete engine house was constructed inside and a bore hole put down for exhaust steam to handle the coal on the Lawrence plane. A tile washhouse and foreman's office was built at No. 10 tunnel. Steel lockers for 32 men have been provided. A substation for electric power has been established at Babylon shaft. A spray system for fire protection has been installed at the breaker. Automatic safety gates were installed at William A. shaft.

**Westmoreland Colliery.**—A new second opening was driven from the Pittston vein to the surface. The plant for generating electricity and a new substation built. Power is now purchased from Luzerne County Gas and Electric Company. The feed wire system was also rebuilt. A new tile shop building is under construction. A spray system for fire protection was also installed.

**Stevens Colliery.**—Two 6-inch bore holes were drilled through the barrier pillar in the Pittston vein and two in the Red Ash vein. These bore holes were 250 feet long, and will be used for the purpose of draining Stevens colliery and abandoning the pumping plant. Steam blowers were dispensed with at the boilers and a blast fan installed. Old boiler plant was dismantled. Work was commenced to reopen the Pittston and Checker veins for pillars. Refuse banks are being silted into the mines through a new 10-inch bore hole. A rock crusher is used to crush the material.



## KINGSTON COAL COMPANY

Kingston No. 4 Colliery.—No. 1 shaft: One 8-inch hole was drilled from Bennett vein to Ross vein for drainage. A new concrete air bridge was built in the Orchard vein.

No. 4 Shaft: New fireboss station was constructed at foot of shaft. Shaft was driven from Checker vein to Bennett for drainage and flushing. New 8-inch bore hole was drilled from Ross to Red Ash vein for pumping purposes. A concrete re-enforced partition was completed between the downcast and upcast airways in hoisting shaft. A concrete re-enforced building was erected for encasing a new 28-foot Vulcan fan with Corliss engine. This is a duplicate of the building erected in 1914. A new manway has been completed from the Ross tunnel to the foot of the shaft in the Red Ash vein.

## EAST BOSTON COAL COMPANY

East Boston Colliery.—Installed one 21 by 36 inch air compressor, complete. Built fireproof compressor engine house; also fireproof hospital on the surface. Two electric generators were installed for lighting purposes. Tunnels were driven from Bennett vein to Cooper vein and from Eleven Foot vein to Bennett vein. An air shaft was driven from Cooper vein to Bennett vein.

## HADDOCK MINING COMPANY

Black Diamond Colliery.—Rock plane was driven from Lance vein to Orchard vein, 208 feet, on 21 degree pitch, equipped with one pair of Flori engines. New fireproof engine room was built at head of Eleven Foot slope for housing 12 by 24 inch Vulcan hoisting engines.

## RAUB COAL COMPANY

Louise Colliery.—Installed 3 electric hoists and 4 electric centrifugal pumps.

## DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Pettebone Colliery.—Breaker was reconstructed and is again in operation. The work of developing thin seams is still underway.

## MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in Pittston, May 18 and 19. The Board of Examiners was composed of S. J. Jennings, Mine Inspector, Pittston; James J. McCarty, Superintendent, Luzerne; Thomas Grogan, Miner, Luzerne; John Evers, Miner, Luzerne.

The following applicants passed a satisfactory examination and were granted certificates:



## MINE FOREMEN

Karl F. Arbogast, Atherton Bowen, Pittston; Edward Handley, Edwardsville; William Mills, Benjamin McEnaney, Exeter; John J. McDonnell, Malachi Glennon, Kingston; Willard Prynne, Hugh G. Henderson, Patrick J. Lavin, Luzerne; John Psolka, Swoyersville; Frederic W. Emerson, Wyoming.

## ASSISTANT MINE FOREMEN

Edward Balcomb, Forty Fort; David T. Jenkins, James Maloney, William Joseph, Edwardsville; John Hawk, Swoyersville; Charles J. Williams, Albert Reid, Pittston; William J. Rodda, Luzerne.



## NINTH DISTRICT

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### LUZIERNE COUNTY

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Wilkes-Barre, Pa., February 20, 1916.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my annual report as Inspector of Mines for the Ninth Anthracite District for the year ending December 31, 1915.

Respectfully submitted ,

D. T. DAVIS,  
Inspector.

## SUMMARY OF STATISTICS

Number of collieries, .....	15
Number of mines, .....	46
Number of mines in operation, .....	46
Number of tons of coal shipped to market, .....	4,463,404
Number of tons used at mines for steam and heat, ....	434,575
Number of tons sold to local trade and used by employes,	140,168
Number of tons produced, .....	5,038,147
Number of tons produced by compressed air machines, .	.....
Number of tons produced by electrical machines, .....	.....
Number of persons employed inside of mines, .....	7,968
Number of persons employed outside, .....	2,171
Number of fatal accidents inside of mines, .....	39
Number of fatal accidents outside, .....	2
Number of non-fatal accidents inside of mines, .....	35
Number of non-fatal accidents outside, .....	5
Number of tons of coal produced per fatal accident in- side, .....	129,183
Number of tons produced per fatal accident outside, ..	2,519,073
Number of tons produced per fatal accident inside and outside, .....	122,882
Number of persons employed per fatal accident inside,..	204
Number of persons employed per fatal accident outside,	1,086
Number of persons employed per fatal accident inside and outside, .....	247
Number of persons employed per non-fatal accident in- side, .....	228
Number of persons employed per non-fatal accident out- side, .....	434
Number of persons employed per non-fatal accident in- side and outside, .....	253
Number of wives made widows, .....	28
Number of children made orphans, .....	68
Number of steam locomotives used inside of mines, ....	1
Number of steam locomotives used outside, .....	16
Number of compressed air locomotives used inside, ....	7
Number of compressed air locomotives used outside, ..	.....
Number of electric motors used inside, .....	41
Number of electric motors used outside, .....	5
Number of gasoline locomotives used inside, .....	.....
Number of fans in use, .....	43
Number of furnaces in use, .....	.....
Number of gaseous mines in operation, .....	42
Number of non-gaseous mines in operation, .....	4
Number of new mines opened, .....	.....
Number of old mines abandoned, .....	.....

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Lehigh and Wilkes-Barre Coal Company, .....	1,553,732
Delaware, Lackawanna and Western Railroad Com- pany, .....	1,372,369
Delaware and Hudson Company, .....	1,126,193
Kingston Coal Company, .....	752,312
George F. Lee Coal Company, .....	125,513
West Nanticoke Coal Company, .....	93,717
Plymouth Red Ash Coal Company, .....	14,311
Total, .....	<u><u>5,038,147</u></u>

Production by Counties

Luzerne, .....	<u><u>5,038,147</u></u>
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TABLE C.—Causes of Fatal Accidents Inside and Outside of Mines

	Months												Totals	Percentages
	January	February	March	April	May	June	July	August	September	October	November	December		
Inside														
Falls of coal, .....	...	...	...	...	1	1	...	1	1	1	2	...	7	17.95
Falls of slate, .....	...	...	...	1	...	...	...	...	...	...	...	...	1	2.56
Falls of roof, .....	1	1	3	1	1	2	...	1	1	...	...	2	13	33.33
Mine cars, .....	...	...	1	...	...	1	...	2	1	...	...	...	5	12.82
Explosions of gas, ....	...	...	...	...	...	...	...	...	...	...	...	...	2	5.13
Blasts, premature and otherwise, .....	...	...	1	...	...	1	...	...	...	2	...	...	4	10.25
Falling into shafts, ...	1	...	...	...	...	...	...	...	...	...	1	...	2	5.13
Struck by timber, ...	...	...	...	...	...	...	...	...	...	...	1	...	1	2.57
Suffocated by culm, ..	...	...	...	...	...	...	...	1	...	...	...	...	1	2.57
Struck by piece of coal, .....	...	1	...	...	...	...	1	...	...	...	1	...	3	7.69
Total, .....	2	2	5	2	2	7	1	5	3	3	4	3	39	100.00
Outside														
Suffocated by coal, ..	...	...	...	...	...	...	...	...	...	...	...	1	1	50.00
Struck by piece of coal, .....	...	...	...	1	...	...	...	...	...	...	...	...	1	50.00
Totals, .....	...	...	...	1	...	...	...	...	...	...	1	2	100.00	
Grand totals inside and outside, .....	2	2	5	3	2	7	1	5	3	3	4	4	41	.....

TABLE D.—Causes of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Inside														
Falls of coal, .....	...	...	...	...	1	1	...	...	...	...	1	...	3	8.57
Falls of roof, .....	...	...	...	...	...	1	...	4	1	...	...	...	6	17.14
Mine cars, .....	2	...	1	2	...	...	...	...	1	3	1	...	10	28.57
Explosions of gas, ....	1	1	...	...	...	2	...	...	...	...	...	...	4	11.43
Blasts, premature and otherwise, .....	1	...	...	1	...	...	...	...	1	...	...	...	3	8.57
Mules, .....	...	...	...	1	...	...	...	...	...	...	...	...	1	2.86
Falling, .....	...	...	...	...	1	...	...	...	...	...	...	...	1	2.86
Struck by timber, ....	...	1	...	...	3	...	...	...	...	...	...	...	4	11.43
Struck by piece of coal, .....	...	1	1	...	...	...	...	1	...	...	...	...	3	8.57
Totals, .....	4	3	2	4	5	4	...	5	3	3	2	...	35	100.00
Outside														
Mules, .....	...	...	...	...	...	...	1	...	...	...	...	...	1	20.00
Falling, .....	...	...	...	...	...	...	...	...	1	...	...	...	1	20.00
Scalded by steam, ....	...	...	...	...	...	...	...	...	...	...	...	...	1	20.00
Burned by hot ashes, ...	...	1	...	...	...	...	...	...	...	...	...	...	1	20.00
Struck by piece of steel, .....	1	...	...	...	...	...	...	...	...	...	...	...	1	20.00
Totals, .....	1	1	...	...	...	...	1	1	...	1	...	...	5	100.00
Grand totals inside and outside, .....	5	4	2	4	5	4	1	6	3	4	2	...	40	.....

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
Inside													
Assistant mine foremen, .....	1	.....	.....	.....	.....	.....	.....	3	.....	1	.....	.....	1
Miners, .....	.....	2	2	2	2	4	.....	.....	1	1	.....	1	20
Miners' laborers, .....	1	.....	.....	.....	.....	.....	.....	.....	1	2	.....	.....	11
Drivers and runners, .....	.....	.....	1	.....	.....	1	.....	1	.....	.....	2	.....	3
Company men, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
Footmen, .....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
Motormen, .....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
Carpenters, .....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
Totals, .....	<u>2</u>	<u>2</u>	<u>5</u>	<u>2</u>	<u>2</u>	<u>7</u>	<u>1</u>	<u>5</u>	<u>3</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>39</u>
Outside													
Laborers, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
Miners, .....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Totals, .....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	2
Grand totals inside and outside, .....	2	2	5	3	2	7	1	5	3	3	4	4	41

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
Inside													
Miners, .....	1	1	....	2	2	2	....	1	2	1	....	....	12
Miners' laborers, .....	1	1	1	....	....	....	....	3	1	....	1	....	10
Drivers and runners, .....	1	1	....	2	....	....	....	1	....	1	....	....	6
Doorboys and helpers, .....	....	....	....	....	....	....	....	....	....	1	1	....	2
Company men, .....	1	....	1	....	3	....	....	....	....	1	....	....	5
Totals, .....	4	3	2	4	5	4	....	5	3	3	2	....	35
Outside													
Assistant foremen, .....	....	....	....	....	....	....	1	....	....	....	....	....	1
Statepickers (boys), .....	....	....	....	....	....	....	....	....	1	....	....	....	1
Laborers, .....	....	1	....	....	....	....	....	1	....	....	....	....	2
Machinists, .....	1	....	....	....	....	....	....	....	....	....	....	....	1
Totals, .....	1	1	....	....	....	....	1	1	....	1	....	....	5
Grand totals inside and outside, .....	5	4	2	4	5	4	1	6	3	4	2	....	40

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
American, .....	...	...	...	...	...	1	1	1	1	1	1	1	7
English, .....	...	...	...	1	...	1	...	...	...	...	...	...	1
Welsh, .....	1	...	...	...	...	1	...	...	...	...	...	...	2
Irish, .....	...	1	1	...	...	...	...	...	...	...	...	1	3
German, .....	...	...	...	1	...	1	...	...	...	...	...	...	1
Polish, .....	1	...	1	1	2	3	...	2	1	1	2	...	14
Slavonian, .....	...	...	...	1	...	...	...	...	...	...	...	...	1
Lithuanian, .....	...	...	3	...	...	...	...	...	1	1	1	1	6
Austrian, .....	...	...	...	...	...	...	...	1	1	...	...	...	2
Russian, .....	...	1	...	...	...	1	...	...	...	...	...	1	3
Magyar, .....	...	...	...	...	...	...	...	1	...	...	...	...	1
Totals, .....	2	2	5	3	2	7	1	5	3	3	4	4	41

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
American, .....	2	...	...	1	1	...	...	1	1	1	1	...	8
English, .....	...	1	1	...	...	...	1	1	...	...	...	...	4
Welsh, .....	1	...	...	...	...	1	...	1	...	...	...	...	3
Irish, .....	...	...	...	...	1	...	...	...	...	...	...	...	1
Polish, .....	1	3	...	2	2	...	...	2	1	3	...	...	14
Slavonian, .....	1	...	1	...	...	...	...	1	...	...	...	...	3
Lithuanian, .....	...	...	...	1	1	1	...	...	1	...	1	...	5
Russian, .....	...	...	...	...	...	1	...	...	...	...	...	...	1
Magyar, .....	...	...	...	...	...	1	...	...	...	...	...	...	1
Totals, .....	5	4	2	4	5	4	1	6	3	4	2	...	40

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Lehigh and Wilkes-Barre Coal Co. Lance Colliery:	Shaft,.....	Gaseous, ..	3 Fans, ..	34.3 35 35	10.11 11.9 11.9	8.4 8.9 8.9	52 49 49	2.1 2.1 2.1	Gulbal, ..	Steam, .....	..	12	267,440	186,340	336,800	502
Lance, .....																
Nottingham No. 15 Colliery:	Shaft,.....	Gaseous, ..	5 Fans, ..	24 24 24 24 23.9 5	7.10 8 8 8 8 6.7 1.4	6.0 6.0 6.0 6.0 6.0 5.10 1.0	70 70 73 73 73 60 300	2.1 2.1 2.1 2.1 2.1 1.8 .....	Gulbal, ..	Steam, .....	.....	21	424,979	236,235	499,170	.....
Nottingham, .....	Slope, .....	Gaseous, ..	2 Fans, ..						Sturtevant	Electricity, ..						
Reynolds, .....																
Inman No. 21 Colliery:	Shaft,.....	Gaseous, ..	Fan, .....	15	4.6	4.0	75	.7	Gulbal, ..	Steam, .....	..	1	28,500	13,000	45,000	40
Inman No. 21, .....																
Buttonwood No. 22 Colliery:	Shaft,.....	Gaseous, ..	3 Fans, ..	35 35 6	11.9 11.9 4	10.6 10.6 7.4	50 50 120	2.1 2.1 2.5	Gulbal, ..	Steam, .....	.....	11	206,990	155,290	224,090	218
Buttonwood, .....	Tunnel, ..	Gaseous, ..		24	8	5.8	80	2.1	Vulcan, ..	Electricity, ..	.....					
Farrish, .....	Slope, .....	Gaseous, ..	2 Fans, ..	20	5.8	5.8			Gulbal, ..	Steam, .....	.....	6	54,906	43,730	60,070	134



TABLE I.—Continued

Number of persons employed inside	130	36
Number of cubic feet of air per minute passing out at outlet	80,775	39,900
Total number of cubic feet of air per minute circulating in all the splits	79,380	36,350
Number of cubic feet of air per minute entering the mine at inlet	79,375	38,000
Number of splits of air currents	8	3
Area of furnace bars in square feet	:	:
Power used	.....	.....
Name of fan	.....	.....
Water gauge developed—in inches	.....	.....
Number of revolutions per minute	.....	.....
Depth of blades in feet and inches	.....	.....
Width of blades in feet and inches	.....	.....
Diameter of fan in feet and inches	.....	.....
Method of ventillation	Natural, ..	Natural, ..
Gaseous or non-gaseous	Non-gas., ..	Non-gas., ..
Kind of opening	Slope, ... 6 Drifts, ... Tunnel, ..	Slope, .....
Names of Operators and Mines	West Nanticoke Coal Co. West Nanticoke Colliery: { West Nanticoke, ..... { Plymouth Red Ash Coal Co. Red Ash Colliery: Red Ash, .....	



TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Lehigh and Wilkes-Barre Coal Co.						
Lance No. 11, .....						
Nottingham No. 15, .....						
Inman No. 21, .....						
Buttonwood No. 22, .....						
Washeries						
Buttonwood, .....	Luzerne, .....	C. F. Huber, General Manager.	Wilkes-Barre, .....	E. J. Newbaker, ....	Wilkes-Barre, .....	C. R. R. of N. J.
Parrish, .....						
Delaware, Lackawanna and Western Railroad Co.						
Avondale, .....	Luzerne, .....	C. E. Tobey, .....	Scranton, .....	H. G. Davis, .....	Kingston, .....	D. L. and W.
Loomis, .....						
Woodward, .....						
Delaware and Hudson Co.						
Plymouth Nos. 2, 3, 5, ....	Luzerne, .....	E. R. Fettebone, ....	Scranton, .....	Charles Dorrance, Jr.	Scranton, .....	D. and H.
Washeries						
Plymouth Nos. 3 and 5, ....						
Kingston Coal Co.						
Kingston No. 2, .....	Luzerne, .....	F. E. Zerbey, .....	Kingston, .....	{ Thomas H. Williams	Kingston, .....	D. L. and W., D. and H. L. V., Penna., and C. R. R. of N. J.
Gaylord, .....				{ R. A. Smith, .....	Plymouth, .....	D. L. and W. D. and H. C. R. R. of N. J. and Penna.
George F. Lee Coal Co.						
Chauncy, .....	Luzerne, .....	George F. Lee, .....	Wilkes-Barre, .....	.....	.....	D. L. and W.
West Nanticoke Coal Co.						
West Nanticoke, .....	Luzerne, .....	A. D. W. Smith, ....	Wilkes-Barre, .....	Edwin W. Davies, ..	Dorrancton, .....	Pennsylvania
Plymouth Red Ash Coal Co.						
Red Ash, .....	Luzerne, .....	W. L. Schlager, ....	Scranton, .....	.....	.....	D. L. and W.

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employees	Total production of coal in tons	Number of days worked	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Lehigh and Wilkes-Barre Coal Co. Lancaster No. 11 Nottmgham No. 15 Inman No. 21† Bottomwood No. 22	Luzerne	{ 387,833 530,751 153,364 1,076,948 }	{ 31,454 64,340 35,161 130,955 }	{ 4,031 13,388 2,245 19,664 }	{ 423,318 608,479 195,770 1,227,567 }	{ 213 202 166 ..... }	{ 802 1,147 615 2,564 }	{ 1 8 2 11 }	{ 8 4 6 18 }	{ 311,825 317,175 90,825 719,825 }	{ 2,238 10,269 19,299 31,806 }	{ 23,500 245 63,477 86,222 }	{ 113 182 78 373 }
Bottomwood, Farrish, Washeries	Luzerne	{ 104,902 153,119 283,021 1,334,969 }	{ 19,012 43,087 62,099 193,054 }	{ ..... 6,045 6,045 25,709 }	{ 123,914 202,251 326,165 1,553,732 }	{ 241 261 ..... ..... }	{ 36 63 99 2,663 }	{ ..... ..... ..... 11 }	{ ..... ..... ..... 18 }	{ ..... ..... ..... 719,825 }	{ ..... ..... ..... 31,806 }	{ ..... ..... ..... 86,222 }	{ ..... 8 8 381 }
Totals, Delaware, Lackawanna and Western Railroad Co.	.....	{ 131,255 245,264 926,820 1,303,339 }	{ 17,290 ..... 40,760 58,040 }	{ 2,021 ..... 8,969 10,990 }	{ 150,566 245,264 976,539 1,372,369 }	{ 205 206 234 ..... }	{ 410 547 1,814 2,771 }	{ 1 4 9 14 }	{ ..... 1 4 5 }	{ 50,475 162,225 730,475 943,175 }	{ 2,882 17,730 22,300 42,912 }	{ 12,134 65,500 151,547 229,181 }	{ 46 19 129 191 }
Avondale, Loomis, Woodward, Totals,	Luzerne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

†Developing.

Delaware and Hudson Co. Plymouth No. 2, Plymouth No. 3, Plymouth No. 5,	Luzerne, ..	{ 215,556 464,707 282,036 972,329 }	{ 18,402 83,904 6,215 25,427 }	..... 7,130 4,176 11,306	233,998 472,641 302,417 1,009,056	190 262 171 .....	478 968 1,001 2,447	3 3 3 9	4 2 6 12	128,220 369,000 242,800 740,020	3,636 7,085 3,744 14,465	350 7,550 ..... 7,900	43 87 107 237
Washeries Plymouth No. 2, Plymouth No. 5,	Luzerne, ..	{ 6,377 ..... 6,377 978,706 }	{ 83,914 26,846 110,760 136,181 }	..... ..... ..... 11,306	90,291 26,846 117,137 1,126,193	40 171 ..... .....	* † ..... 2,447	..... ..... ..... 9	..... ..... ..... 12	..... ..... ..... 740,020	..... ..... ..... 14,465	..... ..... ..... 7,900	..... ..... ..... 237
Totals, Kingston Coal Co. Luzerne, .. Gaylord, ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals, George F. Lee Coal Co. Chancey, ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
West Nanticoke Coal Co. Luzerne, ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Plymouth Red Ash Coal Co. Red Ash, ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grand totals, *Employees included with Plymouth No. 3. †Employees included with Plymouth No. 5.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

\*Employees included with Plymouth No. 3.  
†Employees included with Plymouth No. 5.

TABLE 2.—Part 2  
Number and kinds of boilers and locomotives in use, number of steam engines, pumps, electric dynamos and air compressors in use, etc.

Names of Operators	County	Number of Boilers				Locomotives				Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors	
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Gasoline	Steam	Air								Electric
Lehigh and Wilkes-Barre Coal Co., Delaware, Lackawanna and Western Railroad Co., Delaware and Hudson Co., Kingston Coal Co., George F. Lee Coal Co., West Nanticoke Coal Co., Plymouth Red Ash Coal Co.,	Luzerne,	.....	.....	59	10,525	10,525	.....	3	7	5	181	18,493	14	14,050	7,050	1	8
		.....	.....	24	5,400	5,400	.....	6	.....	31	88	14,361	13	16,425	9,525	6	3
		.....	.....	30	7,740	7,740	.....	.....	.....	.....	234	13,084	10	14,900	4,150	2	6
		.....	.....	13	3,450	3,450	.....	7	.....	6	39	4,750	3	2,940	1,600	1	1
		.....	.....	5	310	310	.....	.....	.....	.....	5	260	.....	.....	.....	.....	.....
		.....	.....	.....	.....	.....	.....	1	.....	4	.....	129	.....	.....	.....	.....	.....
		.....	.....	1	75	75	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....
Totals,		.....	.....	132	27,500	27,500	.....	17	7	46	547	51,077	40	48,315	22,325	17	18

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside											Outside								Grand total	
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
Lehigh and Wilkes-Barre Coal Co., Delaware, Lackawanna and Western Railroad Co., Delaware and Hudson Co., Kingston Coal Co., George F. Lee Coal Co., West Nanticoke Coal Co., Plymouth Red Ash Coal Co.,	Luzerne,	5	4	44	711	431	223	102	26	454	....	2,055	..	4	24	120	146	35	12	267	693	2,663
		6	7	23	754	776	123	77	18	....	574	2,358	...	3	31	60	55	....	6	258	413	2,771
		4	5	13	480	637	237	61	18	241	47	1,808	...	6	28	120	89	105	4	307	639	2,447
		5	13	4	531	396	148	11	2	100	97	1,312	...	3	43	39	9	25	5	251	370	1,682
		1	1	1	75	98	29	....	....	43	21	269	...	2	3	7	27	4	1	58	102	371
		1	1	1	47	65	12	....	3	....	....	130	...	....	2	4	5	....	1	14	26	156
		1	1	....	11	16	3	....	2	....	2	36	1	1	....	2	3	....	....	6	13	49
		23	37	91	2,619	2,519	780	251	64	843	741	7,963	3	19	131	352	307	169	29	1,161	2,171	10,139
Totals,																						





TABLE 4.—Fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 20	William Jones, .....	Welsh, .....	Assistant foreman, .....	61	M.	1	2	Nottingham No. 15, ..	Luzerne,	Killed by fall of roof on slope.
Feb. 28	Paul Yeratskie, .....	Polish, .....	Laborer, .....	27	S.	1	1	Woodward, .....		Killed by falling down shaft.
Feb. 10	Patrick O'Boyle, .....	Irish, .....	Miner, .....	40	M.	1	1	Gaylord, .....		Killed by fall of roof at face of chamber.
March 1	John Farzon, .....	Russian, .....	Miner, .....	43	M.	1	1	Nottingham No. 15, ..		Killed by coal rolling at face of chamber.
March 1	Alexander Gregonalis, ..	Lithuanian, ..	Miner, .....	37	M.	1	1	Woodward, .....		Killed by fall of roof at face of chamber.
March 23	Joseph Szuliuskus, .....	Lithuanian, ..	Laborer, .....	19	S.	1	1	Woodward, .....		Killed by fall of roof at face of chamber.
March 26	Stanley Wescavage, .....	Polish, .....	Laborer, .....	30	S.	1	1	Nottingham No. 15, ..		Killed by explosion of blast on slope.
March 30	Patrick McGinness, .....	Polish, .....	Laborer, .....	32	M.	1	1	Kingston No. 2, .....		Killed by fall of roof at face of chamber.
April 10	William Matthews, .....	English, .....	Miner, .....	28	M.	1	1	Loomis, .....		Killed by cars on gangway.
April 25	George Baunis, .....	Polish, .....	Miner, .....	46	M.	1	1	Plymouth No. 3, .....		Killed by fall of roof at face of chamber.
April 26	Andrew Klocz, .....	Slavonian, ..	Miner, .....	39	S.	1	1	Woodward, .....		Killed by fall of slate at face of chamber.
May 14	Martin Soha, .....	Polish, .....	Miner, .....	27	S.	1	1	Lance No. 11, .....		Killed by being struck on head by piece of slate that fell from ascending cage. Out-side.
May 19	Anthony Clemensky, .....	Polish, .....	Miner, .....	23	S.	1	1	Loomis, .....		Killed by fall of coal in cross-cut.
June 1	William Norris, .....	Welsh, .....	Runner, .....	27	S.	1	1	Woodward, .....		Killed by fall of coal at face of chamber.
June 15	Michael Keller, .....	German, .....	Miner, .....	41	S.	1	1	Kingston No. 2, .....		Killed by cars on gangway.
June 23	Stanley Young, .....	American, ..	Miner, .....	23	M.	1	1	Nottingham No. 15, ..		Killed by fall of coal at face of chamber.
June 23	William Prizbyleski, .....	Polish, .....	Laborer, .....	32	M.	1	1	Chauncey, .....		Killed by fall of roof at face of chamber.
June 22	Charles Litz, .....	Polish, .....	Miner, .....	53	M.	1	1	Plymouth No. 2, .....		Killed by explosion of blast at face of chamber.
July 30	Peter Pochinyak, .....	Russian, .....	Laborer, ..	40	M.	1	4	Nottingham No. 15, ..		Fatally burned by explosion of gas in chamber.
July 30	Andrew Smith, .....	American, ..	Carpenter, ..	21	M.	1	1	Nottingham No. 15, ..		Fatally burned by explosion of gas in chamber.
Aug. 2	John Gabriel, .....	Polish, .....	Miner, .....	33	M.	1	1	Plymouth No. 5, .....		Killed by being struck by piece of coal in shaft.
Aug. 17	Thomas Thomas, .....	American, ..	Motorman, ..	63	S.	1	3	Plymouth No. 2, .....		Killed by fall of roof at face of chamber.
Aug. 18	Joseph Jerde, .....	Magyar, .....	Miner, .....	22	M.	1	4	Woodward, .....		Killed by cars on gangway.
Sept. 11	Michael Eganich, .....	Austrian, .....	Miner, .....	44	M.	1	1	Nottingham No. 5, ..		Killed by fall of coal at face of chamber.
Sept. 11	James Butler, .....	American, ..	Miner, .....	37	M.	1	3	Plymouth No. 2, .....		Suffocated by rush of culm in chamber.
Sept. 25	William O'Harra, .....	Polish, .....	Footman, ..	29	M.	1	1	Woodward, .....		Killed by fall of roof at face of chamber.
Oct. 7	Anthony Szmonsaki, .....	Lithuanian, ..	Laborer, ..	40	M.	1	2	Plymouth No. 2, .....		Killed by cars on slope.
Oct. 7	Anthony Szmonsaki, .....	Lithuanian, ..	Laborer, ..	32	S.	1	1	Plymouth No. 3, .....		Killed by fall of coal at face of chamber.

TABLE 4.—Continued

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Oct.	20 Whitefield Warmouth,	American, ..	Miner, .....	30	M.	1	1	Kingston No. 2, .....		Killed by explosion of blast at face of chamber.
	26 Anthony Mushel, ....	Polish, .....	Laborer, ...	35	M.	1	3	Avondale, .....		Killed by explosion of blast at face of chamber.
Nov.	5 Miran Kaminsky, ....	Polish, .....	Miner, .....	48	M.	1	7	Plymouth No. 3, .....		Killed by piece of coal in chamber sliding on him.
	8 Richard Stires, .....	American, ..	Miner, .....	40	M.	1	5	Gaylord, .....		Killed by fall of coal on gangway.
	10 William Jelnskie, ..	Polish, .....	Laborer, ....	21	S.	...	...	Nottingham No. 15, ..		Killed by falling off cage into shaft.
	29 Peter Serka, .....	Lithuanian, ..	Laborer, ...	28	S.	...	...	Nottingham No. 15, ..		Killed by fall of coal at face.
Dec.	15 John Mauze, .....	American, ..	Laborer, ...	36	S.	...	...	Woodward, .....		Suffocated in coal. He got on a railroad car before the hoppers were opened and was pulled through. Outside.
	17 John Ayers, .....	Irish, .....	Company man.	29	M.	1	2	Buttonwood No. 22, ..		Killed by timber falling on him in chamber.
	21 William Kossa, .....	Lithuanian, ..	Miner, .....	45	M.	1	...	Plymouth No. 5, .....		Killed by fall of roof at face of chamber.
		Russian, ....	Laborer, ...	33	M.	1	...	Kingston No. 2, .....		Killed by fall of roof at face of chamber.

Lucerne.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 11	Stanley Skudalski, ...	American, ...	Driver, ...	19	S.	Plymouth No. 3, ...	Luzerne,	Hand crushed by cars on gangway.
16	John King, ...	Welsh, ...	Company man, ...	69	M.	Buttonwood No. 22, ...		Ribs fractured by cars on gangway.
20	Andrew Horitz, ...	Slavonian, ...	Laborer, ...	30	M.	Plymouth No. 2, ...		Face and hands burned by explosion of gas in old chamber.
25	Charles Bolan, ...	American, ...	Machinist, ...	37	M.	Nottingham No. 15, ...		Eye lacerated by flying steel. Outside.
Feb. 5	George Maraskie, ...	Polish, ...	Miner, ...	49	M.	Lance No. 11, ...		Ribs fractured by explosion of blast at face of chamber.
13	Joseph Tropole, ...	Polish, ...	Laborer, ...	27	M.	Kingston No. 2, ...		Contusion of back by rock sliding from gob in chamber.
19	Costik Lysyskie, ...	Polish, ...	Laborer, ...	19	S.	Plymouth No. 2, ...		Hands and face burned by hot ashes. Out-
19	William Came, ...	English, ...	Runner, ...	18	S.	Buttonwood No. 22, ...		Ribs bruised. Struck by timber on slope.
March 7	John Lasoskie, ...	Polish, ...	Miner, ...	26	S.	Lance No. 11, ...		Face and hands burned by explosion of gas at face of chamber.
10	William Owens, ...	Welsh, ...	Company man, ...	56	M.	Buttonwood No. 22, ...		Fingers cut off by cars on gangway.
17	Michael Burrow, ...	Slavonian, ...	Laborer, ...	53	M.	Plymouth No. 5, ...		Leg fractured by coal rolling on him on slope.
April 8	Anthony Wayewodzki, ...	Polish, ...	Miner, ...	46	M.	Plymouth No. 2, ...		Arm bruised by cars in chamber.
12	Michael Olenkski, ...	Polish, ...	Driver, ...	19	S.	Buttonwood No. 22, ...		Back bruised by cars on gangway.
17	John Bolla, ...	Lithuanian, ...	Miner, ...	40	M.	Lance No. 11, ...		Eye destroyed by explosion of blast at face of chamber.
22	Willard Toney, ...	American, ...	Runner, ...	22	S.	Plymouth No. 5, ...		Jaw fractured by being kicked by a mule on gangway.
May 14	Joseph Wychulis, ...	Lithuanian, ...	Miner, ...	40	M.	Buttonwood No. 22, ...		Back bruised by prop falling on him at face of chamber.
	Joseph Shusto, ...	Polish, ...	Company man, ...	30	M.	Lance No. 11, ...		Ribs fractured by prop falling on him at face of chamber.
	Joseph Blake, ...	Irish, ...	Company man, ...	23	S.	Lance No. 11, ...		Chest bruised by prop falling on him at face of chamber.
15	Adam Butler, ...	Polish, ...	Miner, ...	33	M.	Lance No. 11, ...		Ankle fractured by fall of coal at face of chamber.
17	Samuel Scarles, ...	American, ...	Company man, ...	30	S.	Nottingham No. 15, ...		Foot fractured by falling in chamber.
June 7	Andrew Roudnick, ...	Russian, ...	Laborer, ...	38	S.	Woodward, ...		Legs fractured by fall of roof in cross-cut.
7	Frank Mozhine, ...	Hungarian, ...	Miner, ...	33	M.	Woodward, ...		Thigh and ribs fractured by fall of coal at face of chamber.
22	James Reese, ...	Welsh, ...	Miner, ...	63	S.	Woodward, ...		Face and hands burned by explosion of gas on gangway.

TABLE 5.—Continued

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
June 22	John Romauski, .....	Lithuanian,	Laborer, .....	25	S.	Woodward, .....	Luzerne.	Face and hands burned by explosion of gas on gangway.
July 6	Gilbert Young, .....	English, ....	Assistant foreman, ..	53	M.	Chanucey, .....		Ribs fractured by being kicked by a mule that he was passing in stable. Outside.
Aug. 9	Stephen Collins, .....	English, ....	Miner, .....	52	S.	West Nanticoke, .....		Collar bone fractured by fall of roof at face of chamber.
10	Michael Petro, .....	Slavonian, ..	Laborer, .....	57	M.	Plymouth No. 3, .....		Leg fractured by fall of roof at face of chamber.
13	Stephen Grisko, .....	Polish, .....	Laborer, .....	24	M.	Plymouth No. 5, .....		Leg fractured by fall of roof in chamber.
19	William Jones, .....	Welsh, .....	Driver, .....	43	S.	Buttwood No. 22, ..		Leg fractured by fall of roof on gangway.
23	Joseph Roberts, .....	Polish, .....	Laborer, .....	22	S.	West Nanticoke, .....		Leg fractured by coal rolling on him in chamber.
31	James Wright, .....	American, ..	Laborer, .....	44	S.	Plymouth No. 5, .....		Burned by steam on ash bank. Outside.
Sept. 17	Stanley Lapsinski, ..	Polish, .....	Miner, .....	63	M.	Nottingham No. 15, ..		Leg fractured by explosion of blast at face of chamber.
25	John Shuman, .....	Lithuanian, ..	Miner, .....	29	M.	Plymouth No. 2, .....		Foot bruised by cars in chamber.
30	John Eley, .....	American, ..	Laborer, .....	26	M.	Red Ash, .....		Leg fractured by fall of roof at face of chamber.
Oct. 7	Andrew Yorocheck, ..	Polish, .....	Doorboy, .....	18	S.	Loomis, .....		Leg fractured by cars on gangway.
15	Alexander Kosecka, ..	Polish, .....	Slatepicker, .....	15	S.	Lance No. II, .....		Scalp lacerated by falling into elevator pit in breaker. Outside.
20	James Burns, .....	American, ..	Runner, .....	45	M.	Plymouth No. 5, .....		Arm fractured by cars on gangway.
28	Phillip Gould, .....	Polish, .....	Miner, .....	17	S.	Luzerne No. II, .....		Ribs fractured by cars on gangway.
Nov. 29	Joseph Munschick, ..	American, ..	Doorboy, .....	17	S.	Plymouth No. 5, .....		Face bruised by cars on gangway.
	Frank Yeust, .....	Lithuanian, ..	Laborer, .....	24	S.	Nottingham No. 15, ..		Body bruised by fall of coal at face of chamber.

## CONDITION OF COLLIERIES

## LEHIGH AND WILKES-BARRE COAL COMPANY

Lance No. 11, Nottingham No. 15, Inman No. 21, and Buttonwood No. 22 Collieries.—Safety conditions, ventilation and drainage, good.

## DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Avondale, Loomis and Woodward Collieries.—Safety conditions, ventilation and drainage, good.

## DELAWARE AND HUDSON COMPANY

Plymouth Nos. 2, 3 and 5 Collieries.—Safety conditions, ventilation and drainage, good.

## KINGSTON COAL COMPANY

Kingston No. 2 and Gaylord Collieries.—Safety conditions, ventilation and drainage, good.

## GEORGE F. LEE COAL COMPANY

Chauncey Colliery.—Safety conditions, ventilation and drainage, good.

## WEST NANTICOKE COAL COMPANY

West Nanticoke Colliery.—Safety conditions, ventilation and drainage, good.

## PLYMOUTH RED ASH COAL COMPANY

Red Ash Colliery.—Safety conditions, ventilation and drainage, good.

## IMPROVEMENTS

## LEHIGH AND WILKES-BARRE COAL COMPANY

Lance No. 11 Colliery.—Completed No. 30 tunnel, Hillman to Stanton; tunnel, Baltimore to Baltimore off No. 4 slope; and No. 31 tunnel, Baltimore to Cooper vein.

Nottingham No. 15 Colliery.—Completed No. 6 tunnel, Top Ross to Ross. Installed a 14 by 48 inch pump on shaft level, and a new pumping station on 11th East.

Inman No. 21 Colliery.—Completed East tunnel from Hillman shaft level.

Buttonwood No. 22 Colliery.—Installed an electric pump on No. 3 slope, and an electric hoist on No. 13 slope.

In the Parrish mine an electric haulage was installed on No. 13 slope, also two electric locomotives. Completed No. 10 tunnel, and



tunnel airway, Abbott to Abbott; No. 15 tunnel, Baltimore to Five-Foot; No. 9 rock plane, Stanton to Hillman, and rock slope on shaft level.

Outside: Completed an oil and lamphouse, washhouse, lumber shed and motor house. Installed a 27 by 40 by 22½ by 30 inch air compressor and fuel conveyor.

At the Parrish, changes were made to breaker so as to connect with washery operations. Completed lamphouse and inside foreman's office, oilhouse and blacksmith shop.

#### DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Avondale Colliery.—Completed rock tunnel from Ross vein across measures to Hillman vein, a distance of 1650 feet, and made a second opening for same; also rock tunnel through fault in No. 10 slope and rock return airway, parallel with No. 2 slope, to assist in ventilating the live workings. Built a blacksmith and carpenter shop of concrete and brick. Installed pumps for unwatering the mine workings flooded in November, 1910, and pumping equipment in No. 5 slope section of Ross vein. The installation of this pumping equipment has been very costly and the expense of reopening the colliery shows that to mine anthracite coal in the Wyoming Valley requires capital, as the dangers from flooding are quite imminent.

Loomis Colliery.—This colliery is, perhaps, the most wonderful operation of its kind in style and construction, that has ever been erected in the anthracite region. The breaker building and annex or washery is practically fireproof, and is constructed of concrete, steel and wire glass, and all the other buildings are most modern in their equipment. The breaker will be completed during the year 1916. It is electrically operated, with separate units, and is expected to have a large capacity. There are already miles of gangway developed, so that a large tonnage might be expected as soon as the breaker is placed in operation. The work of sinking No. 3 shaft, near the Susquehanna River, is underway. The shaft will be sunk to a depth of about 660 feet to the Hillman vein. The old Dundee shaft is also to be widened and sunk to the Ross vein bed.

Woodward Colliery.—Preparations are now being made to reconstruct the breaker of concrete, steel and wire glass; this building was placed in operation during the year 1888. It has been a large producer for the past ten years. It was the first breaker that prepared 1,000,000 tons of coal in a year, which was accomplished in 1905. Side walls are being built and "I" beams placed for roof support, instead of ordinary mine timber along the haulage roads. This is in line with the progressive movement established some years ago by this company. Completed the driving of rock tunnels for the necessary development and transportation of the coal.

#### DELAWARE AND HUDSON COMPANY

Plymouth No. 2 Colliery.—In November the breaker was abandoned and the coal is now being prepared at Plymouth No. 5 breaker. Completed a tunnel, 290 feet, from the Stanton vein to the Hillman vein.



Plymouth No. 3 Colliery.—Rock plane was driven from Stanton vein to Hillman vein, a distance of 300 feet.

Plymouth No. 5 Colliery.—The breaker has been entirely remodeled. In the Boston section, a tunnel 80 feet in length was driven from the Bennett vein to the Cooper vein.

#### KINGSTON COAL COMPANY

Kingston No. 2 Colliery.—Inside: In No. 2 shaft, completed two short tunnels from Cooper vein to Bennett vein for a second opening; also two short tunnels from Cooper vein to Lance vein for a second opening. In the old slope, a new traveling way for men and mules was completed from Red Ash lower level to top lift.

Outside: Installed a 10,000 gallon water tank. Completed two concrete powder houses.

#### MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in Plymouth, June 6 and 7. The Board of Examiners was composed of David T. Davis, Mine Inspector, Wilkes-Barre; H. G. Davis, Superintendent, Kingston; George W. Raub, Miner, and Lewis R. Thomas, Miner, Plymouth.

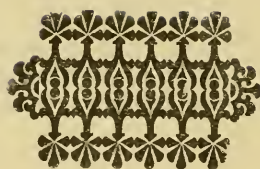
The following persons passed a satisfactory examination and were granted certificates:

#### MINE FOREMEN

Nathan W. Bittenbender, Frank Coggins, Elijah B. Dobson, Ezra M. Griffith, William B. Jones, Price Lloyd, Arthur Williams, Plymouth; James J. Duffy, Kingston; William C. Thomas, Edwardsville.

#### ASSISTANT MINE FOREMEN

George Barney, William J. Davis, Walter Peter Dajnowski, Richard Edwards, Fred B. Hick, Evan Hopkins, Samuel C. Heller, Howell T. Jenkins, Ignaz Kosmela, Joseph Leedock, Frank Munday, James H. Morgan, Felix Pohola, John B. Rees, William Richards, Joseph Stukowski, Frank Sobashinski, Walter Symons, Cornelius Shovlin, Joseph R. Thomas, Joseph Turek, Isaac J. Thomas, Thomas Taylor, Frank Walters, Martin Zola, Plymouth; Thomas Brislin, West Nanticoke; Alfred M. Clark, Alfred Jones, Stephen M. Lodwick, Griffith Roberts, Bert Smith, Albert G. Wilczak, Edwardsville; Evan J. Evans, Forty Fort; Michael Farrell, William Meyers, Larksville; John Powell, David T. Morgan, Kingston.



## TENTH DISTRICT

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### LUZERNE COUNTY

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Nanticoke, Pa., February 19, 1916.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my annual report as Inspector of Mines for the Tenth Anthracite District, for the year ending December 31, 1915, as required by law.

Respectfully submitted,

JOSEPH J. WALSH,  
Inspector.

## SUMMARY OF STATISTICS

Number of collieries, .....	10
Number of mines, .....	47
Number of mines in operation, .....	46
Number of tons of coal shipped to market, .....	4,535,225
Number of tons used at mines for steam and heat, .....	417,884
Number of tons sold to local trade and used by employes, .....	64,620
Number of tons produced, .....	5,017,729
Number of tons produced by compressed air machines, .....	.....
Number of tons produced by electrical machines, .....	.....
Number of persons employed inside of mines, .....	8,446
Number of persons employed outside, .....	2,568
Number of fatal accidents inside of mines, .....	24
Number of fatal accidents outside, .....	2
Number of non-fatal accidents inside of mines, .....	23
Number of non-fatal accidents outside, .....	5
Number of tons of coal produced per fatal accident inside, .....	209,072
Number of tons produced per fatal accident outside,...	2,508,864
Number of tons produced per fatal accident inside and outside, .....	192,990
Number of persons employed per fatal accident inside, .....	352
Number of persons employed per fatal accident outside, .....	1,284
Number of persons employed per fatal accident inside and outside, .....	424
Number of persons employed per non-fatal accident inside, .....	367
Number of persons employed per non-fatal accident outside, .....	514
Number of persons employed per non-fatal accident inside and outside, .....	393
Number of wives made widows, .....	17
Number of children made orphans, .....	37
Number of steam locomotives used inside of mines,....	2
Number of steam locomotives used outside, .....	32
Number of compressed air locomotives used inside, ...	12
Number of compressed air locomotives used outside, .....	.....
Number of electric motors used inside, .....	76
Number of electric motors used outside, .....	9
Number of gasoline locomotives used inside, .....	2
Number of fans in use, .....	46
Number of furnaces in use, .....	.....
Number of gaseous mines in operation, .....	36
Number of non-gaseous mines in operation, .....	11
Number of new mines opened, .....	1
Number of old mines abandoned, .....	3

TABLE A  
PRODUCTION OF COAL

Names of Operators	Tons
Delaware, Lackawanna and Western Railroad Company, .....	1,940,320
Susquehanna Coal Company, .....	1,591,142
West End Coal Company, .....	578,231
Lehigh and Wilkes-Barre Coal Company, .....	500,307
Alden Coal Company, .....	329,894
E. S. Stackhouse Coal Company, .....	77,835
Total, .....	<u>5,017,729</u>

Production by Counties

Luzerne, .....	<u>5,017,729</u>
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TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Delaware, Lackawanna and Western Railroad Co., .....	6	1	7	2	3	5	323,387	970,160	3,214	583	3,797	536	.....	1,607	.....
Susquehanna Coal Co., .....	8	1	9	7	1	8	198,893	198,893	2,863	1,274	4,137	368	1,274	358	425
West End Coal Co., .....	4	1	5	5	1	6	141,658	82,604	924	278	1,202	231	278	132	278
Lehigh and Wilkes-Barre Coal Co., .....	4	.....	4	.....	1	1	125,077	100,061	703	190	893	176	.....	141	190
Alden Coal Co., .....	2	.....	2	.....	.....	.....	104,947	.....	588	193	781	294	.....	.....	.....
E. S. Stackhouse Coal Co., .....	.....	.....	.....	1	.....	1	77,855	77,855	154	50	204	.....	.....	154	.....
Totals and averages, .....	24	2	26	23	5	28	209,072	218,162	8,446	2,568	11,014	352	1,284	367	514



TABLE C.—Causes of Fatal Accidents Inside and Outside of Mines

	Months												Totals	Percentages
	January	February	March	April	May	June	July	August	September	October	November	December		
Inside														
Falls of coal, .....			1		2	1		1		2	2	1	4	16.67
Falls of roof, .....					1					2		1	7	29.16
Mine cars, .....	1			2								1	6	25.00
Blasts, premature and otherwise, .....	1					1							3	8.33
Falling into chambers, .....	1	1											3	8.33
Crushed at batteries, .....										1			1	4.17
Struck by rope, .....				1									1	4.17
Struck by piece of rock, .....										1			1	4.17
Totals, .....	3	1	1	3	3	2		1		6	2	2	24	100.00
Outside														
Cars, .....	1											1	2	100.00
Totals, .....	1											1	2	100.00
Grand totals inside and outside, .....	4	1	1	3	3	2		1		6	2	3	26	.....

TABLE D.—Causes of Non-Fatal Accidents Inside and Outside of Mines

	Months												Totals	Percentages
	January	February	March	April	May	June	July	August	September	October	November	December		
Inside														
Falls of coal, .....						1	1		1				3	13.04
Falls of slate, .....										1			1	4.35
Falls of roof, .....							1	1	1	1			4	17.39
Mine cars, .....	1	1		1				1					4	17.39
Explosions of powder and dynamite, .....				1									1	4.35
Blasts, premature and otherwise, .....									1	1	1		3	13.04
Falling, .....	1												1	4.35
Struck by windlass, .....	1												1	4.35
Struck by prop, .....	1												1	4.35
Struck by piece of coal, .....						1							1	4.35
Rush of coal, .....						1							1	4.35
Struck by timber, .....							1						1	4.35
Struck by rope, .....							1						1	4.34
Totals, .....	4	1		2		3	4	2	3	3	1		23	100.00
Outside														
Cars, .....	1								1				2	40.00
Machinery, .....				1									1	20.00
Struck by timber, .....		1											1	20.00
Falling, .....		1											1	20.00
Totals, .....	1	1		1		1			1				6	100.00
Grand totals inside and outside, .....	5	2		3		4	4	2	4	3	1		28	.....

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
Inside													
Miners, .....	2	1	1	1	2	2	...	1	...	3	1	...	10
Miners' laborers, .....	1	1	...	1	1	...	...	1	...	...	...	1	7
Drivers and runners, .....	...	...	...	1	...	...	...	...	...	...	...	1	1
Doorboys and helpers, .....	...	...	...	...	...	...	...	...	...	...	...	1	1
Engineers, .....	...	...	...	1	...	...	...	...	...	1	...	...	1
Road cleaners, .....	...	...	...	...	...	...	...	...	...	1	...	...	1
Timbermen, .....	...	...	...	...	...	...	...	...	...	2	1	...	3
Totals, .....	3	1	1	3	3	2	...	1	...	6	2	2	24
Outside													
Runners, .....	1	...	...	...	...	...	...	...	...	...	...	...	1
Laborers, .....	...	...	...	...	...	...	...	...	...	...	...	1	1
Totals, .....	1	...	...	...	...	...	...	...	...	...	...	1	2
Grand totals inside and outside, .....	4	1	1	3	3	2	...	1	...	6	2	3	26

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
Inside													
Miners, .....	.....	.....	.....	.....	.....	2	1	.....	2	2	1	.....	3
Miners' laborers, .....	2	1	.....	.....	.....	1	3	.....	1	1	.....	.....	9
Drivers and runners, .....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Doorboys and helpers, .....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
Company men, .....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Drillers, .....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Loaders, .....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Rockmen, .....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
Totals, .....	4	1	.....	2	.....	3	4	2	3	3	1	.....	23
Outside													
Blacksmiths and carpenters,...	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
Laborers, .....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Shaker-tenders, .....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Fuelmen, .....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	1
Brakemen, .....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
Totals, .....	1	1	.....	1	.....	1	.....	.....	1	.....	.....	.....	5
Grand totals inside and outside, .....	5	2	.....	3	.....	4	4	2	4	3	1	.....	28

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
American, .....	1	...	...	1	...	...	...	1	...	...	...	1	4
Welsh, .....	...	...	...	...	...	...	...	...	...	1	1	...	2
Irish, .....	1	...	...	...	...	...	...	...	...	...	...	...	1
German, .....	...	...	...	...	...	...	...	...	...	2	1	...	2
Polish, .....	1	1	1	...	...	1	...	...	...	...	...	1	11
Hungarian, .....	...	...	...	...	...	...	...	...	...	...	...	...	1
Italian, .....	1	...	...	...	...	...	...	...	...	1	...	...	2
Slavonian, .....	...	...	...	...	...	...	...	...	...	...	...	...	1
Lithuanian, .....	...	...	...	...	...	...	...	...	...	...	...	1	1
Russian, .....	...	...	...	1	...	...	...	...	...	...	...	...	1
Totals, .....	4	1	1	2	3	2	...	1	...	6	2	3	26

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
American, .....	1	1	...	...	...	3	...	...	...	...	...	...	5
English, .....	...	...	...	...	...	...	...	...	1	...	...	...	1
Irish, .....	1	...	...	...	...	...	...	...	...	...	...	...	1
Polish, .....	2	1	...	1	...	1	2	2	1	2	1	...	13
Italian, .....	1	...	...	...	...	...	1	...	1	...	...	...	3
Slavonian, .....	...	...	...	1	...	...	...	...	...	...	...	...	1
Austrian, .....	...	...	...	...	...	...	...	...	1	1	...	...	2
Russian, .....	...	...	...	1	...	...	...	...	...	...	...	...	1
Magyar, .....	...	...	...	...	...	...	1	...	...	...	...	...	1
Totals, .....	5	2	...	3	...	4	4	2	4	3	1	...	28

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Delaware, Lackawanna and Western Railroad Co.															
Anchincloss Colliery:															
Number 1, .....	Shaft, .....	Gaseous, ..	Fan, .....	25	8	8	70	2.6	Guibal, .....	Steam, .....	10	110,840	83,700	114,100	607
Number 2, .....	Shaft, .....	Gaseous, ..	Fan, .....	33	9.5	7	50	2.4	Guibal, .....	Steam, .....	8	152,900	123,400	163,200	607
Bliss Colliery:															
Bliss, .....	Shaft, .....	Gaseous, ..	{ 3 Fans, {	35	9.2	9.1	52	2	Guibal, .....	Steam, .....	31	326,000	275,500	354,800	739
Espx, .....	Tunnel, ..	Gaseous, ..		{ 17	4.3	10	72	1.6	Guibal, .....						
Tuesdale Colliery:															
Number 1, .....	Shaft, .....	Gaseous, ..	Fan, ....	25	7	5	72	2.3	Guibal, .....	Steam, .....	15	203,000	175,000	243,000	434
Number 2, .....	Shaft, .....			25	7	5	75	2.7	Guibal, .....	Steam, .....	13	154,000	138,000	170,000	346
Number 3, .....	Slope, .....			16	9	5	105	3.2	Vulcan, .....	Steam, .....	10	159,600	135,400	242,500	358
Number 5, .....	Slope, .....			16	9	5	150	2.8	Jetrey, .....	Steam, .....	13	140,000	135,000	156,000	285
Number 6, .....	Slope, .....			12	3	3	124	1	Open running, ..	Electricity, ..	4	39,200	30,200	66,900	166
Tuesdale, .....	Tunnel, ..			12	3.25	3	124	1	Open running, ..	Electricity, ..	4	66,800	55,100	70,500	182
Number 20, .....	Tunnel, ..			12	3.5	3.2	125	.6	Open running, ..	Electricity, ..	9				

\*Emergency fan

Susquehanna Coal Co. Colliery No. 5:	Number 2, .....	Shaft, .....	Gaseous, ..	3 Fans,...	25	8	8	57	1.2	Guibal, .....	Steam, .....	8	136,624	95,490	142,000	395
	Number 4, .....	Slope, .....	Gaseous, ..	4 Fans,...	25	8	8	70	2.1	Guibal, .....	Steam, .....	9	115,380	90,000	122,000	320
	Number 1, .....	Slope, .....	Gaseous, ..	Fan, .....	25	8	8	68	2.1	Guibal, .....	Steam, .....	2	8,000	7,000	9,000	75
	Number 2, .....	Tunnel, .....	Non-gas, ..	Natural, ..	25	8	8	73	2.1	Guibal, .....	Steam, .....	1	19,160	10,000	20,300	26
	Number 4, .....	Drift, .....	Non-gas, ..	Natural, ..	25	8	8	70	1.7	Guibal, .....	Steam, .....	1	3,000	2,050	3,100	15
	Number 5, .....	Shaft, .....	Gaseous, ..	Fan, .....	25	8	8	60	1.3	Guibal, .....	Steam, .....	10	115,000	103,000	118,000	227
	Number 6, .....	Shaft, .....	Gaseous, ..	Fan, .....	25	8	8	90	1.3	Guibal, .....	Steam, .....	2	15,000	12,000	17,000	99
	Number 7, .....	Drift, .....	Non-gas, ..	Natural, ..	25	8	8	80	1.1	Sturtevant, ..	Steam, .....	2	15,000	9,000	14,300	9
	Number 23, .....	Tunnel, .....	Non-gas, ..	Natural, ..	25	8	8	73	2.1	Guibal, .....	Steam, .....	1	14,000	3,000	5,000	10
	Number 6, .....	Tunnel, .....	Gaseous, ..	Fan, .....	20	6	6	58	7	Guibal, .....	Steam, .....	6	91,600	82,000	94,000	220
Colliery No. 6:	Number 6, .....	Shaft, .....	Gaseous, ..	3 Fans,...	25	8	8	46	1.2	Guibal, .....	Steam, .....	5	190,000	50,000	193,000	214
	Number 7, .....	Shaft, .....	Gaseous, ..	Fan, .....	20	6	6	150	1.3	Guibal, .....	Steam, .....	2	89,000	85,000	90,000	304
	Number 10, .....	Slope, .....	Gaseous, ..	Fan, .....	10	5	5	120	1.2	Guibal, .....	Steam, .....	2	49,000	48,000	50,000	100
	Number 1, .....	Drift, .....	Gaseous, ..	Fan, .....	7.5	4	4	116	1.5	Capell, .....	Electricity, ..	2	49,000	48,000	50,000	100
	Number 7, .....	Shaft, .....	Gaseous, ..	2 Fans,...	25	8	8	78	3.8	Guibal, .....	Steam, .....	5	150,000	135,000	158,000	267
	Number 1, South, .....	Shaft, .....	Gaseous, ..	↑	25	8	8	70	2	Guibal, .....	Steam, .....	3	60,000	50,000	63,000	140
	Number 1, North, .....	Shaft, .....	Gaseous, ..	↑	25	8	8	60	1.6	Guibal, .....	Steam, .....	2	25,000	14,000	23,000	10
	Number 1, North, .....	Shaft, .....	Gaseous, ..	↑	25	8	8	72	1.5	Guibal, .....	Steam, .....	2	100,000	90,000	108,000	252
	Number 1, North, .....	Shaft, .....	Gaseous, ..	5 Fans,...	20	3	6	189	2.3	Guibal, .....	Electricity, ..	3	70,000	60,000	76,000	165
	Number 1, North, .....	Shaft, .....	Gaseous, ..	↑	15	4	4	76	.9	Guibal, .....	Steam, .....	1	10,000	7,000	11,000	25
West End Coal Co.	Number 1, .....	Drift, .....	Gaseous, ..	Fan, .....	16	4.5	4.6	100	1.5	Guibal, .....	Steam, .....	4	65,400	52,040	85,500	120
	Number 2, .....	Drift, .....	Gaseous, ..	Fan, .....	4	1.6	1	450	1.5	Guibal, .....	Electricity, ..	2	32,200	31,300	34,100	140
	Number 3, .....	Drift, .....	Non-gas, ..	Fan, .....	16	4	6	60	.8	Guibal, .....	Steam, .....	2	68,000	54,000	70,500	135
	Number 4, .....	Drift, .....	Gaseous, ..	Fan, .....	8	5	2.3	130	1.4	Guibal, .....	Electricity, ..	3	94,000	65,800	96,200	184
	Number 1, Lee, .....	Drift, .....	Gaseous, ..	Fan, .....	15	4.5	4.5	90	.8	Guibal, .....	Electricity, ..	3	90,500	38,200	98,300	85
	Number 3, Lee, .....	Drift, .....	Non-gas, ..	Fan, .....	6	1.6	1	350	.5	Guibal, .....	Electricity, ..	2	50,600	41,000	53,400	69
	Number 3, Lee, .....	Drift, .....	Gaseous, ..	Fan, .....	16	4.5	4.6	100	1.5	Guibal, .....	Steam, .....	4	65,400	52,040	85,500	120
	Number 2, .....	Drift, .....	Gaseous, ..	Fan, .....	4	1.6	1	450	1.5	Guibal, .....	Electricity, ..	2	32,200	31,300	34,100	140
	Number 3, .....	Drift, .....	Non-gas, ..	Fan, .....	16	4	6	60	.8	Guibal, .....	Steam, .....	2	68,000	54,000	70,500	135
	Number 4, .....	Drift, .....	Gaseous, ..	Fan, .....	8	5	2.3	130	1.4	Guibal, .....	Electricity, ..	3	94,000	65,800	96,200	184
Lehigh and Wilkes-Barre Coal Co.	Number 1, .....	Drift, .....	Gaseous, ..	Fan, .....	15	4.5	4.5	90	.8	Guibal, .....	Electricity, ..	3	90,500	38,200	98,300	85
	Number 3, .....	Drift, .....	Non-gas, ..	Fan, .....	6	1.6	1	350	.5	Guibal, .....	Electricity, ..	2	50,600	41,000	53,400	69
	Number 2, .....	Slope, .....	Gaseous, ..	Fan, .....	24	8	6	70	1.7	Guibal, .....	Steam, .....	12	120,000	114,000	126,000	313
	Number 3, .....	Drift, .....	Gaseous, ..	Fan, .....	24	8	6	70	1.8	Guibal, .....	Steam, .....	9	126,575	105,800	132,700	256
	Number 3, .....	Slope, .....	Gaseous, ..	Fan, .....	24	8	6	70	1.8	Guibal, .....	Steam, .....	9	126,575	105,800	132,700	256
	Number 3, .....	Drift, .....	Gaseous, ..	Fan, .....	24	8	6	70	1.8	Guibal, .....	Steam, .....	9	126,575	105,800	132,700	256
	Number 3, .....	Slope, .....	Gaseous, ..	Fan, .....	24	8	6	70	1.8	Guibal, .....	Steam, .....	9	126,575	105,800	132,700	256
	Number 3, .....	Drift, .....	Gaseous, ..	Fan, .....	24	8	6	70	1.8	Guibal, .....	Steam, .....	9	126,575	105,800	132,700	256
	Number 3, .....	Slope, .....	Gaseous, ..	Fan, .....	24	8	6	70	1.8	Guibal, .....	Steam, .....	9	126,575	105,800	132,700	256
	Number 23, .....	Tunnel, ..	Gaseous, ..	Fan, .....	8	2.8	2.5	105	.5	Guibal, .....	Steam, .....	1	9,700	8,150	9,900	22

†Fan ventilates more than one opening.

TABLE I.—Continued

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Alden Colliery:	Shaft,...}	Gaseous, ..	Fan, .....	15	5	4.7	84	.2	Guibal, .....	Steam, ... {	4	46,700	40,200	46,800	68
	Slope, ...}	Gaseous, ..	2 Fans, ... {	24	8	7	66	1.5	Guibal, .....	Steam, .....	10	110,980	104,200	123,670	92
	Shaft, .....	Non-gas, ..	Fan, .....	24	9	5.9	66	.2	Guibal, .....	Steam, .....	1	189,900	94,200	102,800	84
	Slope, ....	Non-gas, ..	Fan, .....	15	5	4.7	40	.1	Guibal, .....	Steam, .....	1	12,300	11,000	13,650	56
El. S. Stackhouse Coal Co. Salem Colliery:	Drift, .....	Non-gas, ..	Natural, ..	...	...	...	...	...	Stine, .....	Electricity, ..	1	5,000	3,000	5,000	8
	Drift, ....	Non-gas, ..	Fan, .....	4	2	1.5	320	1.7	Stine, .....	Electricity, ..	1	15,000	12,000	15,500	66
	Tunnel, ..	Non-gas, ..	Natural, ..	...	...	...	...	...	Stine, .....	Electricity, ..	1	3,000	2,000	3,100	6
	Tunnel, ..	Non-gas, ..	Fan, .....	5	2.5	1.9	450	1.8	Stine, .....	Electricity, ..	1	23,000	12,000	23,000	34
Beadle,†	Drift, .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Red Ash,†	Drift, .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Crury,†	Drift, .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...

†Abandoned.



TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Delaware, Lackawanna and Western Railroad Co.						
Auchincloss, .....	Luzerne, .....	C. E. Tobey, .....	Scranton, .....	H. G. Davis, .....	Kingston, .....	D., L. and W.
Bliss, .....						
Truesdale, .....						
Susquehanna Coal Co.	Luzerne, .....	Robert A. Quin, .....	Wilkes-Barre, .....	Francis H. Kohlbraker, .....	Nanticoke, .....	Pennsylvania
Numbers 6, 7, .....						
Nanticoke Washery, .....						
West End Coal Co.	Luzerne, .....	H. A. Fillmore, .....	Mocanaqua, .....			Penna. and C. R. R. of N. J.
Lehigh and Wilkes-Barre Coal Co.	Luzerne, .....	C. F. Huber, General Manager, .....	Wilkes-Barre, .....	E. J. Newbaker, .....	Wilkes-Barre, .....	C. R. R. of N. J.
Wanamie, .....	Luzerne, .....	K. M. Smith, .....	Alden Station, .....			C. R. R. of N. J.
Alden, .....						
E. S. Stackhouse Coal Co.	Luzerne, .....	E. S. Stackhouse, .....	Shickshinny, .....			D., L. and W.
Salem, .....						

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employees	Total production of coal in tons	Number of days worked	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Delaware, Lackawanna and Western Railroad Co.													
Anchincloss, .....	{ Luzerne, .. }	264,190	20,112	9,130	293,432	230	717	3	1	55,725	14,000	123,075	30
Bliss, .....	{ Luzerne, .. }	443,823	27,401	3,716	473,940	216	935	2	.....	265,100	33,122	133,660	57
Truesdale, .....	{ Luzerne, .. }	1,130,800	35,030	3,418	1,169,248	240	2,125	1	.....	922,650	83,861	137,615	38
Totals, .....	.....	1,843,813	82,243	14,264	1,940,320	.....	3,797	6	2	1,273,475	119,747	293,800	125
Susquehanna Coal Co.													
Number 5, .....	{ Luzerne, .. }	375,655	73,768	11,869	461,292	217	1,568	2	4	368,125	33,122	12,100	121
Number 6, .....	{ Luzerne, .. }	463,096	52,717	5,065	520,908	215	1,213	4	.....	323,550	55,487	5,450	70
Number 7, .....	{ Luzerne, .. }	342,500	69,655	9,151	421,306	195	1,283	3	3	151,000	17,701	96,450	114
Nanticoke Washery, .....	Luzerne, .....	1,181,251	196,140	26,115	1,403,506	.....	4,064	9	11	847,675	106,310	114,000	305
Totals, .....	.....	1,85,415	2,188	33	187,636	500	73	.....	.....	.....	.....	.....	.....
West End Coal Co.													
Lehigh and Wilkes-Barre Coal Co.	Luzerne, .....	493,834	75,000	9,397	578,231	250	1,202	5	8	847,675	106,310	114,000	305
Wanamie, .....	Luzerne, .....	471,630	25,212	3,465	500,307	212	893	4	6	124,500	78,748	140,700	34
Alden, .....	Alden Coal Co.	294,169	35,830	9,895	329,894	213	781	2	.....	328,500	19,103	30,840	112
E. S. Stackhouse Coal Co.	Luzerne, .....	75,113	1,271	1,451	77,835	201	204	.....	.....	165,725	11,325	52,900	68
Grand totals, .....	.....	4,535,225	417,884	64,620	5,017,729	.....	11,014	26	28	65,050	10,066	1,880	2
										2,804,925	345,299	634,120	646

TABLE 2.—Part 2  
Number and kinds of boilers and locomotives in use, number of steam engines, pumps, electric dynamos and air compressors in use, etc.

Names of Operators	County	Number of Boilers				Locomotives				Total horse power	Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Gasoline	Steam	Air	Electric							
Delaware, Lackawanna and Western Railroad Co. ....	{ Luzerne, }	.....	.....	13	5,318	5,318	.....	3	.....	54	58	11,230	10	7,780	6,380	8	7
Susquehanna Coal Co. ....		.....	.....	55	11,554	11,554	.....	18	.....	11	33	6,430	10	9,000	4,948	7	10
West End Coal Co., .....		.....	.....	10	3,300	3,300	.....	8	12	16	24	2,430	8	4,000	4,200	5	4
Lehigh and Wilkes-Barre Coal Co., .....		.....	.....	10	1,666	1,666	.....	2	.....	.....	44	2,204	3	4,000	1,582	.....	.....
Alden Coal Co., .....		.....	.....	11	2,262	2,262	.....	2	.....	.....	9	1,375	3	1,800	1,582	.....	.....
E. S. Stackhouse Coal Co., .....		.....	.....	1	150	150	.....	.....	.....	4	.....	.....	3	325	300	1	6
Totals, .....	.....	6	150	100	24,250	24,400	2	34	12	85	232	31,729	36	28,007	13,210	22	23

TABLE 3.—Number of each class of employees inside and outside of mines

Grand total		Outside										Inside										County	Names of Operators
		Total outside	All other employees	Bookkeepers and clerks	Slatepickers (men)	Slatepickers (boys)	Engineers and firemen	Blacksmiths and carpenters	Foremen	Superintendents	Total inside	All other employees	Company men	Pumpmen	Doorboys and helpers	Drivers and runners	Miners' laborers	Miners	Fire bosses and assistants	Assistant mine foremen	Mine foremen		
	3,797	583	322	11	8	127	57	44	4	....	3,214	665	17	64	95	1,200	1,198	32	7	6	19		
	4,137	1,274	774	17	39	161	96	96	6	1	2,873	1,010	78	61	248	912	917	9	6	6	6		
	1,502	1,278	167	12	35	27	29	29	2	1	924	152	12	11	44	349	342	5	4	4	4		
	893	190	4	5	45	23	23	7	1	....	701	93	5	27	55	190	314	14	2	1	1		
	783	193	73	26	35	37	35	12	1	1	588	3	5	17	10	146	215	7	1	1	1		
	204	50	26	3	10	3	3	3	1	1	154	6	....	....	10	70	62	....	....	....	....		
	204	50	26	3	10	3	3	3	1	1	154	6	....	....	10	70	62	....	....	....	....		
	11,014	2,568	1,477	48	93	416	324	191	15	4	8,446	993	57	187	559	2,867	2,978	97	25	19	25		
		</																					

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked Monthly											
		January	February	March	April	May	June	July	August	September	October	November	December
Totals		222	209	211	213	210	213	213	213	213	213	213	213
Delaware, Lackawanna and Western Railroad Co., ....	Luzerne,	16	14	15	22	20	22	13	22	22	22	23	21
Susquehanna Coal Co., .....		12	11	18	23	22	18	13	17	15	22	21	21
West End Coal Co., .....		24	18	20	22	20	16	18	22	22	22	21	21
Lehigh and Wilkes-Barre Coal Co., .....		17	14	15	22	21	14	12	22	16	24	22	23
Alden Coal Co., .....		18	15	16	17	18	17	16	15	19	20	22	20
E. S. Stackhouse Coal Co., .....		19	18	25	27	6	12	12	12	12	16	18	24
												23	24

TABLE 4.—Fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief		
Jan. 5	Ignatz Bruzok, .....	Polish, .....	Laborer, .....	35	M.	1	2	Number 6, .....	Luzerne,	Killed by car at foot of run while on his way out of the mine.		
16	Roman Genette, .....	Italian, .....	Miner, .....	34	M.	1	2	West End, .....		Killed by blast at face of chamber.		
18	John Dougherty, .....	Irish, .....	Runner, .....	20	S.	...	...	Number 5, .....		Fatally squeezed between cars. Outside.		
26	Philip Swanberry, ....	American, ..	Miner, .....	33	M.	1	1	Wanamie, .....		Killed by falling down his chamber, pitch 60 degrees.		
Feb. 5	Anthony Drongoski, ..	Polish, .....	Laborer, .....	24	S.	...	...	West End, .....		Fatally injured by falling down his chamber.		
March 22	Frank Pavoski, .....	Polish, .....	Miner, .....	34	W.	...	5	Wanamie, .....		Fatally injured by fall of coal while skipping pillar.		
April 15	Charles Fassetti, ....	Italian, .....	Laborer, .....	24	M.	1	...	West End, .....		Fatally injured by being struck by derailed car along chamber road.		
21	Vasel Pyron, .....	Russian, ...	Driver, .....	22	S.	...	...	Alden, .....		Killed by car. While riding up a plane broke and jumped off track, the chain then broke and the car ran back and struck Pyron.		
23	Rich. Herman, .....	American, ..	Engineer, ....	25	M.	1	3	Number 5, .....		Fatally injured. While hanging a slope rope on roof hooks at head of slope, a mule hitched to the end of the rope at the bottom of the slope jerked the rope out of his hands, and the rope struck him on the head.		
May 8	Mike Horoslok, .....	Polish, .....	Laborer, .....	26	S.	...	...	Bliss, .....		Killed by fall of coal at working face.		
19	Anthony Venarick, ....	Polish, .....	Laborer, .....	29	M.	1	6	Number 6, .....	Luzerne,	Killed by fall of rock at face of chamber.		
26	Victor Zalmerovich, ..	Polish, .....	Miner, .....	26	M.	1	...	Number 6, .....		Killed by fall of coal at face of pitch.		
June 5	Frank Simon, .....	Hungarian, ..	Miner, .....	47	M.	1	...	Number 6, .....		Killed by premature blast at face of chamber.		
8	William Garlovich, ....	Polish, .....	Miner, .....	30	M.	1	1	West End, .....		Fatally injured by fall of rock while standing prop at face of chamber.		
Aug. 26	John Agnew, .....	American, ...	Laborer, .....	33	M.	1	...	Alden, .....		Fatally injured by fall of coal at face of chamber.		
Oct. 5	Frank Kavalski, .....	Polish, .....	Timberman, ...	29	M.	1	1	Auchincloss, .....		{ Killed by fall of rock while removing a set of timber.		
	Edward Vaughn, .....	Welsh, .....	Timberman, ...	54	S.	...	...	{				
	Charles Wise, .....	German, ...	Miner, .....	52	M.	1	3	Wanamie, .....				



Oct.	12	Steve Petro, .....	Slavonian, ..	Miner, .....	32	M.	1	1	Number 7, .....		Killed by being struck by piece of rock that
	16	Adam Taginski, .....	Polish, .....	Road-cleaner, ..	61	M.	1	....	Wanamie, .....		fallen from gob at working face.
	30	Joseph Smith, .....	German, .....	Miner, .....	51	M.	1	....	Number 7, .....		Killed by being squeezed between car and
Nov.	16	Dominick Butcavage, ..	Polish, .....	Miner, .....	36	M.	1	5	Bliss, .....		rib along main road, derailed car and
	22	William Phillips, .....	Welsh, .....	Timberman, ..	48	W.	....	1	Anchincloss, .....		Fatally crushed between car and
Dec.	3	Mike Kabilie, .....	Lithuanian, ..	Doortender, ..	63	W.	....	4	Tuesdale, .....		timber leg at face of chamber.
	14	Frank Sundae, .....	Polish, .....	Laborer, .....	24	M.	1	1	Number 7, .....		Fatally injured by fall of rock at face of
	31	George W. Titus, .....	American, ..	Laborer, .....	70	S.	....	....	West End, .....		chamber.
											Fatally injured by fall of rock while clean-
											ing a fall on slope.
											Fatally injured by cars while they were
											running through his door.
											Killed by fall of rock at face of chamber.
											Fatally squeezed between derailed car and
											side of breaker. Outside.

— Luzerne, —

TABLE 5.—Non-fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan.	4 Dennis McCue, .....	Irish, .....	Company man, ...	66	M.	Number 7, .....	Luzerne.	Rib fractured by falling when a board that he was carrying was struck by motor.
	8 Chester Plashinski, ..	Polish, .....	Laborer, .....	23	S.	Number 6, .....		Thigh fractured by runaway car in slope.
	12 Christopher Krautz, ..	American, ..	Driller, .....	35	S.	Wanamie, .....		Arm fractured. Struck by windlass while putting rods down a bore hole.
	Joseph Traincheck, ...	Polish, .....	Laborer, .....	21	S.	Number 7, .....		Arm fractured. Squeezed between cars. Outside.
	29 Santa Modesta, ....	Italian, .....	Laborer, .....	26	M.	West End, .....		Collar bone broken by prop falling on him while loading car on gangway road.
Feb.	5 Charles Wapinski, ...	Polish, .....	Laborer, .....	19	S.	West End, .....		Leg fractured. Squeezed between cars on chamber road.
	11 Frank Olshefski, .....	American, ..	Shaker-tender, ...	15	S.	Number 6, .....		Back injured and internally injured by fall in chute. Outside.
April	7 Mike Challick, .....	Russian, ...	Loader, .....	23	M.	Truesdale, .....		Hands shattered and sight of eyes destroyed by explosion of a box of caps.
	20 Victor Hillen, .....	Slavonian, ..	Runner, .....	18	S.	Number 6, .....		Leg fractured. Squeezed between derailed cars.
	23 Wadick Corolls, ....	Polish, ....	Fuelman, .....	37	M.	Wanamie, .....		Head, arm and body bruised by conveyor line. Outside.
June	3 J. P. Adleman, .....	American, ..	Carpenter, .....	42	M.	West End, .....	Luzerne.	Arm broken and head cut by falling timber while tearing down an old pocket. Outside.
	12 Joseph Gonglanski, ...	Polish, ....	Miner, .....	34	M.	Auchincloss, .....		Head cut by fall of coal at face of chamber.
	22 Alfred Miller, .....	American, ..	Miner, .....	39	M.	Wanamie, .....		Compound fracture of wrist. Struck by piece of timber that fell down pit.
	24 Wash Cragle, .....	American, ..	Laborer, .....	47	S.	West End, .....		Eye sight destroyed by rush of coal in chamber chute.
July	9 Frank Sershen, .....	Polish, ....	Laborer, .....	23	S.	Wanamie, .....		Collar bone fractured by timber falling on him at face of chamber.
	Paul Kataco, .....	Hungarian, ..	Laborer, .....	33	M.	West End, .....		Leg broken by fall of rock while shoveling coal in chute.
	19 John Demorra, .....	Italian, ....	Laborer, .....	22	S.	West End, .....		Leg broken. Struck by rope while crossing slope.
	22 Cyril Kostolski, .....	Polish, ....	Miner, .....	29	M.	West End, .....		Back injured by fall of coal while trimming after blast.

Aug.	23	Anthony Boyer, .....	Polish, .....	Rockman, .....	32	M.	Wanamie, .....	Leg broken by fall of rock at face of tunnel.
	24	Mike Zacher, .....	Polish, .....	Patcher, .....	18	S.	Wanamie, .....	Body squeezed between car and rib on gangway.
Sept.	3	Louis Pussette, .....	Italian, .....	Miner, .....	29	M.	West End, .....	Foot bruised by fall of coal from rib while working in chamber.
	14	Paul Lechieski, .....	Polish, .....	Laborer, .....	30	S.	Salem, .....	Skull fractured by fall of rock in chamber.
	22	Andrew Machoga, ....	Austrian, ..	Miner, .....	26	M.	Number 7, .....	Wrist fractured and face and body bruised by delayed blast.
	27	Herbert Beese, .....	English, ...	Brakeman, .....	17	S.	Number 5, .....	Internally injured by falling under locomotive, Outside.
Oct.	7	John Lowanchlick, ....	Polish, .....	Miner, .....	26	M.	Number 5, .....	Spine fractured by fall of slate at face of chamber.
	8	Mike Slust, .....	Polish, .....	Miner, .....	45	S.	Number 5, .....	Skull and legs fractured and otherwise injured by premature blast.
	26	Andrew Danko, .....	Austrian, ..	Laborer, .....	45	M.	Number 6, .....	Leg fractured and hip dislocated by fall of rock at face of chamber.
Nov.	24	Walter Koschinski, ..	Polish, .....	Miner, .....	40	M.	Number 5, .....	Leg fractured by flying coal from blast.

Luzerne,

## CONDITION OF COLLIERIES

## DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Auchincloss Colliery.—Ventilation, drainage and condition as to safety, good.

Bliss and Truesdale Collieries.—Ventilation and condition as to safety, good. Drainage, fair.

## SUSQUEHANNA COAL COMPANY

Nos. 5 and 6 Collieries.—Ventilation and drainage, fair. Condition as to safety, good.

No. 7 Colliery.—Ventilation fair. Drainage and condition as to safety, good.

## WEST END COAL COMPANY

West End Colliery.—Ventilation and drainage, fair. Condition as to safety, good.

## LEHIGH AND WILKES-BARRE COAL COMPANY

Wanamie Colliery.—Ventilation and drainage, fair. Condition as to safety, good.

## ALDEN COAL COMPANY

Alden Colliery.—Ventilation and drainage, fair. Condition as to safety, good.

## E. S. STACKHOUSE COAL COMPANY

Salem Colliery.—Ventilation and drainage, fair. Condition as to safety, good.

## IMPROVEMENTS

## DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Auchincloss Colliery.—The work of replacing timber in No. 1 shaft with re-enforced concrete is still underway. The replacing of timber sets with steel along the main haulage road, from the end of the concrete walls in No. 1 shaft, Baltimore vein, has been pushed during the year with satisfaction. Several wood sets of timber supports have been removed, eliminating the fire risk. Several rock tunnels have been driven for developing ventilation and other purposes.

Bliss Colliery.—A small air shaft, extending from the surface to the Mills seam and used as a second opening, is being recribbed with concrete wall.

Truesdale Colliery.—The work of reconstructing this entire breaker with steel is underway, and the east side of same will be completed during the year 1916. For developing, transportation and ventilation, 18 rock tunnels of various lengths, have been driven from seam to seam.

## LEHIGH AND WILKES-BARRE COAL COMPANY

Wanamie Colliery.—No. 36 tunnel extended from the Baltimore No. 12 tunnel extended from the Hillman seam. No. 38 tunnel driven from Ross to Ross. No. 40 tunnel driven from Red Ash to Red Ash. No. 39 tunnel driven from Hillman to Kidney.

## ALDEN COAL COMPANY

Alden Colliery.—A tunnel 410 feet long has been driven from the Red Ash to the Ross vein in No. 2 shaft workings. One 10 inch by 14 inch Vulcan hoist has been installed on Red Ash slope. A Chambersburg steam hammer and a Wiley and Russell bolt machine have been added to the shop equipment.

## MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in the Susquehanna Coal Company Building, Nanticoke, May 18 and 19. The Board of Examiners was composed of Joseph J. Walsh, Mine Inspector; F. H. Kohlbraker, Superintendent; John Keating and Albon Gonsoski, Miners.

The following persons passed a satisfactory examination and were granted certificates:

## MINE FOREMEN

Thomas J. Arnott, Daniel P. Bolton, John W. Jones and Mark Lloyd, Nanticoke; Martin Burns, Evan T. Jones, Charles R. Price, Glen Lyon; George Hutchinson, William L. James, Concrete City; Edward Dearing, Kingston; Thomas Fenton, Dorranceton; Lewis Keating, Edwardsville; Thomas Murphy, Wanamie.

## ASSISTANT MINE FOREMEN

Daniel Blackwell, John Clark, John T. Davies, Joseph Hocken, James H. Jenkins, Daniel Jones, Reese Jones, Thomas Klugo, Thomas X. Palmer, Louis Ramlow, Thomas H. Roberts, William H. Ruck, George Ruck, John H. Thomas, Jr., Charles B. Trenery, Henry L. Watkins, Nanticoke; James Connor, Larkesville; David Jones, Concrete City; John E. Richards, Warrior Run; Martin Zawatzki, Glen Lyon.





## ELEVENTH DISTRICT

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LUZERNE AND CARBON COUNTIES

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Hazleton, Pa., February 19, 1916.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor of transmitting herewith my annual report as Inspector of Mines for the Eleventh Anthracite District, for the year ending December 31, 1915.

Respectfully submitted,

DAVID J. RODERICK,  
Inspector.

## SUMMARY OF STATISTICS

Number of collieries, .....	21
Number of mines, .....	83
Number of mines in operation, .....	81
Number of tons of coal shipped to market, .....	5,192,629
Number of tons used at mines for steam and heat, .....	712,308
Number of tons sold to local trade and used by employees, .....	226,991
Number of tons produced, .....	6,131,928
Number of tons produced by compressed air machines, ..	.....
Number of tons produced by electrical machines, ....	.....
Number of persons employed inside of mines, .....	7,595
Number of persons employed outside, .....	3,948
Number of fatal accidents inside of mines, .....	22
Number of fatal accidents outside, .....	6
Number of non-fatal accidents inside of mines, .....	36
Number of non-fatal accidents outside, .....	18
Number of tons of coal produced per fatal accident inside, .....	278,724
Number of tons produced per fatal accident outside, ..	1,021,988
Number of tons produced per fatal accident inside and outside, .....	218,997
Number of persons employed per fatal accident inside, ..	345
Number of persons employed per fatal accident outside, ..	658
Number of persons employed per fatal accident inside and outside, .....	412
Number of persons employed per non-fatal accident inside, .....	211
Number of persons employed per non-fatal accident outside, .....	219
Number of persons employed per non-fatal accident inside and outside, .....	214
Number of wives made widows, .....	20
Number of children made orphans, .....	29
Number of steam locomotives used inside of mines, ...	12
Number of steam locomotives used outside, .....	80
Number of compressed air locomotives used inside, ....	12
Number of compressed air locomotives used outside, ..	.....
Number of electric motors used inside, .....	31
Number of electric motors used outside, .....	.....
Number of gasoline locomotives used inside, .....	.....
Number of fans in use, .....	56
Number of furnaces in use, .....	.....
Number of gaseous mines in operation, .....	35
Number of non-gaseous mines in operation, .....	46
Number of new mines opened, .....	1
Number of old mines abandoned, .....	3

## TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
G. B. Markle Company, .....	1,698,741
Coxe Brothers and Company, Incorporated, .....	959,396
Lehigh Valley Coal Company, .....	948,469
A. Pardee and Company, .....	634,905
Pardee Brothers and Company, Incorporated, .....	575,123
C. M. Dodson and Company, .....	392,192
Upper Lehigh Coal Company, .....	240,629
Harwood Coal Company, .....	238,401
M. S. Kemmerer and Company, .....	127,082
J. S. Wentz and Company, .....	123,482
Harleigh Brookwood Coal Company, .....	116,939
Hazle Mountain Coal Company, .....	58,680
Wolf Coal Company, .....	13,136
Thomas R. Reese and Son, .....	4,753
Total, .....	<u><u>6,131,928</u></u>

## Production by Counties

Luzerne, .....	6,073,350
Carbon, .....	58,578
Total, .....	<u><u>6,131,928</u></u>

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
G. B. Markle Co., .....	6	4	10	3	2	5	283,124	566,247	1,918	867	2,785	320	217	639	434
Coxe Brothers and Co., Inc., .....	3	3	6	3	5	8	319,799	319,799	1,902	490	1,392	469	301	201	98
Lehigh Valley Coal Co., .....	3	3	6	3	2	5	316,156	316,156	1,406	715	2,121	469	.....	.....	358
Parsons and Co., .....	1	.....	1	1	.....	1	634,906	634,906	1,073	488	1,561	1,073	.....	1,073	.....
Pard-Bernald Co., Inc., .....	3	.....	3	7	.....	10	287,562	82,160	638	355	993	319	.....	91	118
C. M. Dodson and Co., .....	1	.....	1	1	.....	2	56,024	56,024	453	261	714	81	361	69	.....
Upper Lehigh Coal Co., .....	6	1	7	1	1	2	23,400	23,400	317	124	459	.....	194	116	194
Harwood Coal Co., .....	.....	.....	.....	1	.....	1	49,361	49,361	106	308	.....	.....	.....	37	.....
M. S. Kemmerer and Co., .....	.....	.....	.....	2	.....	2	136	136	115	251	.....	.....	.....	66	35
J. S. Wentz and Co., .....	.....	.....	.....	3	.....	3	61,741	61,741	137	88	245	.....	.....	52	58
Harleigh Brookwood Coal Co., .....	1	.....	1	1	.....	1	28,980	28,980	154	110	264	157	.....	154	110
Hazle Mountain Coal Co., .....	.....	.....	.....	1	.....	1	13,136	13,136	90	20	110	.....	.....	90	.....
Wolf Coal Co., .....	.....	.....	.....	1	.....	1	.....	.....	6	3	9	.....	.....	.....	.....
Miscellaneous Companies, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals and averages, .....	22	6	28	36	18	54	278,724	170,331	7,595	3,948	11,543	346	658	211	219

Names of Operators

TABLE C.—Causes of Fatal Accidents Inside and Outside of Mines

	Months												Totals	Percentages
	January	February	March	April	May	June	July	August	September	October	November	December		
Inside														
Falls of coal, .....	1	.....	2	.....	.....	.....	1	1	.....	.....	1	.....	6	27.27
Falls of slate, .....	1	.....	.....	1	.....	.....	.....	1	2	1	1	.....	6	27.27
Falls of roof, .....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	4.55
Mine cars, .....	.....	1	.....	.....	.....	.....	.....	1	1	.....	1	.....	3	13.64
Suffocation by gas, etc.	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	2	9.09
Blasts, premature and otherwise, .....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	1	3	13.61
Struck by timber, ....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	4.54
Totals, .....	12	1	3	1	.....	.....	1	3	3	2	5	1	22	100.00
Outside														
Cars, .....	.....	1	.....	1	.....	1	.....	1	.....	.....	.....	.....	4	66.66
Struck by timber, ....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	2	33.34
Totals, .....	1	1	.....	1	1	1	.....	1	.....	.....	.....	.....	6	100.00
Grand totals inside and outside, .....	3	2	3	2	1	1	1	4	3	2	5	1	28	.....

TABLE D.—Causes of Non-Fatal Accidents Inside and Outside of Mines

	Months												Totals	Percentages
	January	February	March	April	May	June	July	August	September	October	November	December		
Inside														
Falls of coal, .....	1	1	2	2	1	.....	.....	1	.....	1	1	1	11	30.56
Falls of slate, .....	1	.....	1	.....	1	.....	.....	.....	2	1	.....	.....	4	11.11
Mine cars, .....	.....	4	.....	.....	.....	.....	1	.....	.....	.....	1	3	11	30.55
Explosions of gas, ....	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	2	5.55
Blasts, premature and otherwise, .....	.....	1	1	1	.....	1	.....	.....	.....	.....	.....	.....	4	11.11
Falling into slopes, etc., .....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	2.78
Machinery, .....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	2.78
Rush of water, .....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	2.78
Struck by pick, .....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	2.78
Totals, .....	3	8	5	4	2	1	2	1	2	2	2	4	36	100.00
Outside														
Cars, .....	1	.....	1	.....	1	1	1	1	1	.....	.....	.....	7	38.89
Machinery, .....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	2	11.11
Radiators, .....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	5.56
Fall of coal, .....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	5.56
Fall of clay, .....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	5.56
Falling, .....	1	.....	.....	.....	1	.....	1	.....	.....	2	1	.....	6	33.33
Totals, .....	2	1	1	.....	3	1	2	1	3	2	2	.....	18	100.00
Grand totals inside and outside, .....	5	9	6	4	5	2	4	2	5	4	4	4	54	.....

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
Inside													
Miners, .....	2	1	2	1	.....	.....	1	1	1	1	2	1	9
Miners' laborers, .....	.....	1	1	.....	.....	.....	.....	2	1	1	2	.....	10
Drillers, .....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Doorboys and helpers, .....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
Patchers, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1
Totals, .....	2	1	3	1	.....	.....	1	3	3	2	3	1	22
Outside													
Miners, .....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Trackmen, .....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	2
Laborers, .....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Patchers, .....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
Bookkeepers and clerks, .....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Totals, .....	1	1	.....	1	1	1	.....	1	.....	.....	.....	.....	6
Grand totals inside and outside, .....	3	2	3	2	1	1	1	4	3	2	5	1	28

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
Inside													
Assistant mine foremen, .....				1									1
Miners, .....	2	3	5	1	2				1	2	1	1	19
Miners' laborers, .....		1	1	1		1	2	1	1		1		8
Drivers and runners, .....	1	2							1			1	4
Doorboys and helpers, .....												1	1
Surveyors, .....												1	1
Hitchers, .....		1											1
Motormen, .....												1	1
Totals, .....	<u>3</u>	<u>8</u>	<u>5</u>	<u>4</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>4</u>	<u>36</u>
Outside													
Laborers, .....	1					1		1	1		1		4
Loaders, .....			1		1								3
Screenmen, .....													1
Engineers and firemen, .....										1			1
Slatepickers (boys), .....	1	1			1								3
Teamsters, .....							1		1				1
Jig runners, .....										1			1
Runners, .....							1						1
Breakermen, .....											1		1
Miners, .....									2				2
Totals, .....	<u>2</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>3</u>	<u>2</u>	<u>2</u>	<u>1</u>	<u>18</u>
Grand totals inside and outside, .....	5	9	6	4	5	2	4	2	5	4	4	4	54



TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
American, .....	2	...	1	...	...	...	1	1	1	...	2	...	8
German, .....	...	...	...	...	...	...	...	...	...	...	...	1	1
Polish, .....	...	1	...	...	...	...	...	2	...	...	1	...	4
Italian, .....	...	...	...	2	1	1	...	...	...	...	...	...	4
Slavonian, .....	1	...	...	...	...	...	...	...	...	...	1	...	2
Lithuanian, .....	...	...	...	...	...	...	...	...	1	...	...	...	1
Austrian, .....	...	...	1	...	...	...	...	...	...	...	...	...	1
Russian, .....	...	1	1	...	...	...	...	1	1	1	...	...	4
Greek, .....	...	...	...	...	...	...	...	...	1	1	...	...	2
Bulgarian, .....	...	...	...	...	...	...	...	1	...	...	...	...	1
Totals, .....	2	2	3	2	1	1	1	4	3	2	5	1	23

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
American, .....	1	2	3	...	1	...	2	...	...	2	2	2	16
Welsh, .....	...	2	...	...	...	...	...	...	...	...	...	...	2
German, .....	...	...	...	1	...	...	...	1	...	1	...	...	2
Polish, .....	...	2	...	...	1	...	...	...	...	...	...	...	3
Hungarian, .....	...	...	...	2	...	...	...	...	1	...	...	...	3
Italian, .....	2	...	...	1	...	2	1	...	1	...	1	...	8
Slavonian, .....	1	...	2	...	...	...	...	1	1	1	...	2	8
Lithuanian, .....	...	...	...	...	...	...	1	...	...	...	...	...	1
Austrian, .....	1	1	...	...	...	...	...	...	1	...	1	...	4
Russian, .....	...	...	...	...	2	...	...	...	...	...	...	...	2
Greek, .....	...	...	1	...	...	...	...	...	...	...	...	...	1
Tyrolean, .....	...	...	...	...	...	...	...	...	1	...	...	...	1
Magyar, .....	...	...	...	...	1	...	...	...	...	...	...	...	1
Totals, .....	5	9	6	4	5	2	4	2	5	4	4	4	54

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
G. B. Markle Co. Jeddo No. 4 and Ebervale Colliery, .....	Slope, .....	Gaseous, .....	Fan, .....	16	4.6	4.9	85	1.2	Guibal,	Steam, .....	..	..	60,000	49,500	66,000	240
Jeddo No. 4 Slope, .....	Slope, .....	Gaseous, .....	Fan, .....	25	7.10	7.4	82	3.2					59,800	47,200	73,400	109
Jeddo No. 4 Shaft, .....	Shaft, .....	Non-gas, .....	Fan, .....	16	4.6	4.8	82	0.5					24,000	18,400	23,600	80
Ebervale, Mammoth and Wharton, .....	Slope, .....	Gaseous, .....	{ Fan, ... Fan, ... }	10	3.1	4.7	103	1.8	Guibal,	Steam, .....	..	..	25,000	28,000	34,000	79
Ebervale, Primrose, .....				16	5	2.7	125	.8					17,900	14,600	18,800	30
Jeddo No. 7 Colliery: Primrose and Holmes Veins, .....	Slope, .....	Non-gas, .....	Fan, .....	16	4.6	4.8	50	.6	Guibal,	Electricity, ..	..	..	34,400	25,400	38,000	46
Mammoth and Wharton, ..	Slope, .....	Non-gas, .....	Natural, .....	.....	.....	.....	.....	.....					10,000	7,700	15,000	20
Highland No. 2 Colliery: Highland No. 1, .....	Slope, .....	Gaseous, .....	Natural, .....	.....	.....	.....	.....	.....	Guibal,	Steam, .....	..	..	27,000	22,000	41,000	70
Highland No. 2, .....	Slope, .....	Gaseous, .....	Fan, .....	16	4.5	4.8	70	1.1					25,000	19,000	31,000	66
Highland No. 6, .....	Slope, .....	Non-gas, .....	Fan, .....	16	4.6	4.9	90	1.	Guibal,	Steam, .....	..	..	65,000	49,000	77,000	106
Highland No. 5 Colliery: Highland No. 5, .....	Slope, .....	Gaseous, .....	Fan, .....	16	4.6	4.8	100	1.9	Guibal,	Steam, .....	..	..	55,000	40,800	70,600	146
Highland Nos. 8-9 and 10, ..	Slope, .....	Non-gas, .....	Fan, .....	7	3.8	1.5	100	1.					32,000	18,200	31,800	66
Coxe Brothers and Co., Inc. Drifton Nos. 1 and 2 Colliery: Drifton No. 1, .....	Slope, .....	Non-gas, .....	2 Fans, ...	16	4	4	50	.....	Guibal,	Steam, .....	..	..	67,000	62,000	69,000	83
Drifton No. 2, .....	Slope, .....	Gaseous, .....	Fan, .....	20	4	5.6	70	.....					36,000	49,000	145,300	84



TABLE I.—Continued

Names of Operators and Mines	Number of persons employed inside	Number of cubic feet of air per minute passing out at outlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute entering the mine at inlet	Number of splits of air currents	Area of furnace bars in square feet	Power used	Name of fan	Water gauge developed—in inches	Number of revolutions per minute	Depth of blades in feet and inches	Width of blades in feet and inches	Diameter of fan in feet and inches	Method of ventilation	Gaseous or non-gaseous	Kind of opening
Pardee Brothers and Co., Inc.	19	21,000	12,000	20,000	3	..	Steam, .....	Gubbal, .....	1.6	240	2.6	2.6	4	Fan, .....	Gaseous, .....	Slope, .....
Lattimer Colliery:	237	77,000	60,000	75,000	8	..	Steam, .....	Gubbal, .....	1.6	185	4.3	4.3	16	2 Fans, ...	Gaseous, ...	Slope, .....
Lattimer No. 8, .....	40	100,000	60,000	96,000	...	..	Steam, .....	{ Gubbal, .....	1.	145	1.3	3.5	7	2 Fans, ...	Non-gas, ...	Slope, .....
Lattimer No. 9 and 10, .....	50	21,500	12,700	20,700	3	..	Steam, .....	Gubbal, .....	1.	150	1.67	2.4	8	Fan, .....	Non-gas, ...	Slope, .....
Lattimer No. 20, .....	100	33,000	27,000	32,000	3	..	Steam, .....	Sturtevant, .....	...	105	1.5	3.3	6	Fan, .....	Gaseous, ...	Slope, .....
Lattimer No. 27, .....	182	38,700	30,000	35,000	3	..	Electricity, ..	Stine, .....	...	572	1.5	3.3	6	2 Fans, ...	Gaseous, ...	Shaft, .....
Lattimer No. 17, .....	31	10,000	7,500	8,000	3	..	...	Disc, .....	...	226	...	...	5	...	Gaseous, ...	...
C. M. Dodson and Co.	12	4,500	2,300	3,500	3	..	...	...	...	...	...	...	...	Natural, ...	Non-gas, ...	Slope, .....
Beaver Brook Colliery:	180	42,000	29,500	40,000	4	..	...	...	...	80	...	...	...	Natural, ...	Non-gas, ...	Slope, .....
Beaver Brook No. 5, .....	20	31,000	27,000	30,000	3	..	...	...	...	90	5	4.6	16	Fan, .....	Gaseous, ...	Slope, .....
Beaver Brook No. 6, .....	40	31,000	27,000	30,000	3	..	...	Gubbal, .....	...	...	5	4.6	16	Fan, .....	Gaseous, ...	Slope, .....
Beaver Brook No. 11, .....	100	21,500	21,500	22,000	3	..	...	Gubbal, .....	...	...	...	...	...	Natural, ...	Gaseous, ...	Slope, .....
Beaver Brook No. 15, .....	100	23,000	2,500	3,000	3	..	...	...	...	...	...	...	...	Natural, ...	Gaseous, ...	Slope, .....
Beaver Brook No. 16, .....	12	5,000	2,500	3,000	1	..	...	...	...	...	...	...	...	Natural, ...	Non-gas, ...	Slope, .....



TABLE I.—Continued

Names of Operators and Mines	Number of persons employed inside	8 20 62	.....
	Number of cubic feet of air per minute passing out at outlet	..... 49,000	.....
	Total number of cubic feet of air per minute circulating in all the splits	..... 39,000	.....
	Number of cubic feet of air per minute entering the mine at inlet	..... 48,400	.....
	Number of splits of air currents	* * 2 *	.....
	Area of furnace bars in square feet	.....	.....
	Power used	..... Steam,.....	.....
	Name of fan	..... Vulcan,.....	.....
	Water gauge developed—in inches	.....	.....
	Number of revolutions per minute	..... 93	.....
	Depth of blades in feet and inches	..... 4	.....
	Width of blades in feet and inches	..... 3	.....
	Diameter of fan in feet and inches	..... 16	.....
	Method of ventilation	Natural,..... Natural,..... Fan, .....	Natural,.....
	Gaseous or non-gaseous	Non-gas,..... Non-gas,..... Non-gas,.....	Non-gas,.....
	Kind of opening	Slope,..... Slope,..... Slope,.....	Slope,.....
Wolf Coal Co. Wolf Colliery: Wolf No. 3, ..... Wolf No. 5, ..... Wolf No. 6, ..... Thomas R. Reese and Son Dusky Diamond Colliery: Dusky Diamond, .....			

\*Robbing. No air measurements taken.



TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
G. B. Markle Co. Jeddo No. 4 and Ebervale, Jeddo No. 7, ..... Highland Nos. 2 and 5, .....	Luzerne, .....	A. B. Jessup, .....	Jeddo, .....	G. P. Troutman, Assistant Genl. Mgr.	Jeddo, .....	Lehigh Valley
Coxe Brothers and Co., Inc., Driftton Nos. 1 and 2, Deringer, Gowen and Tom- bickon, ..... Eckley and Buck Mountain, Eckley Washery, .....	Luzerne, .....	Thomas Thomas, .....	Wilkes-Barre, .....	W. H. Davies, .....	Hazleton, .....	Lehigh Valley
Lehigh Valley Coal Co. Hazleton No. 1, ..... Hazleton Shaft, ..... Spring Mountain and Spring, Brook, ..... Spring Brook Washery, .....	Luzerne, ..... Luzerne, ..... Luzerne, ..... Carbon, .....	Thomas Thomas, .....	Wilkes-Barre, .....	W. H. Davies, .....	Hazleton, .....	Lehigh Valley
A. Pardee and Co. Cranberry, .....	Luzerne, .....	Frank Pardee, .....	Hazleton, .....			Lehigh Valley
Pardee Brothers and Co., Inc. Lattimer, .....	Luzerne, .....	C. Pardee, Jr., Presi- dent, .....	Lattimer Mines, .....			Lehigh Valley
C. M. Dodson and Co. Beaver Brook, .....	Luzerne, .....	J. B. Connell, .....	Beaver Brook, .....	F. W. Packer, .....	Beaver Brook, .....	C. R. R. of N. J. and L. V.
Upper Lehigh Coal Co. Upper Lehigh, .....	Luzerne, .....	T. E. Snyder, .....	Hazleton, .....	C. H. Rohland, .....	Upper Lehigh, .....	C. R. R. of N. J.
Harwood Coal Co. Harwood, .....	Luzerne, .....	H. M. Crankshaw, .....	Hazleton, .....			Lehigh Valley
M. S. Kemmerer and Co. Sandy Run, .....	Luzerne, .....	M. S. Kemmerer, .....	New York, N. Y., 143 Liberty St.	J. P. Powell, .....	Sandy Run, .....	C. R. R. of N. J.
J. S. Wents and Co. Hazel Brook, .....	Luzerne, .....	T. E. Snyder, General Manager, .....	Hazleton, .....	C. H. Rohland, .....	Upper Lehigh, .....	Lehigh Valley
Harleigh Brookwood Coal Co. Harleigh, .....	Luzerne, .....	W. G. Thomas, .....	Pottsville, .....	I. D. Thomas, .....	Hazleton, .....	Lehigh Valley

TABLE 1.—Continued

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Super- intendent	Post Office	Railroad to Mine
Hazle Mountain Coal Co.	Luzerne, .....	W. R. McTurk, Presi- dent.	Philadelphia, Penn- sylvania Building.	Morton H. McTurk,...	Girardville, .....	Lehigh Valley
Hazle Mountain, .....	Luzerne, .....	Joseph G. Saricks, ..	Freedland, .....	.....	.....	Lehigh Valley
Wolf, .....	Luzerne, .....	Thomas R. Reese, ...	Andenried, .....	.....	.....	C. R. R. of N. J.
Thomas R. Reese and Son	Luzerne, .....					
Dusky Diamond, .....						

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
G. B. Markle Co.													
Jeddo No. 4 and Ebervale,	{ Luzerne, }	531,391	51,427	3,368	586,186	205	1,223	5	2	33,950	361,562	.....	69
Jeddo No. 7,		339,033	18,207	23,421	400,966	303	1,223	1	1	25	29,275	.....	13
Highland No. 2,		306,419	32,191	14,733	353,343	304	640	2	1	.....	97,405	.....	82
Highland No. 5,		336,762	22,649	135	353,546	299	716	3	1	14,425	248,820	.....	59
Totals,		1,532,610	124,474	41,657	1,698,741	.....	2,835	10	5	48,400	737,062	.....	163
Coxe Brothers and Co., Inc.													
Drifton Nos. 1 and 2,	{ Luzerne, }	290,166	75,154	6,155	371,475	218	498	1	6	49,825	69,852	.....	45
Derfinger, Goven and Tomblicken,		249,655	29,119	8,176	296,950	223	528	2	1	47,625	130,530	.....	60
Eckley and Buck Mountain,		240,271	8,672	13,068	262,011	223	310	.....	1	5,925	85,595	.....	58
Eckley Washery,		142	28,168	650	28,960	220	26	.....	.....	.....	.....	.....	.....
Totals,		780,234	151,113	28,049	959,396	.....	1,392	3	8	102,775	285,997	.....	163
Lehigh Valley Coal Co.													
Hazleton No. 1,	Luzerne, .....	164,722	17,359	51,605	223,686	205	533	1	1	10,625	170,364	.....	40
Hazleton Shaft,		250,082	101,475	4,250	355,757	222	964	2	2	5,325	203,359	.....	27
Spring Mountain and Spring Brook,		226,139	69,663	4,646	300,448	212	662	1	2	67,375	103,904	.....	50
Spring Brook Washery,		58,578	.....	.....	58,578	210	22	.....	.....	.....	.....	.....	.....
Totals,		699,471	188,497	60,501	948,460	.....	2,121	3	5	83,825	477,627	.....	117
A. Pardee and Co.													
Cranberry,	Luzerne, ....	556,986	70,080	7,839	634,905	263	1,561	1	1	11,270	425,800	.....	180
Pardee Brothers and Co., Inc.		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lattimer,	Luzerne, ....	506,052	64,000	5,071	575,123	274	993	2	10	4,275	219,465	.....	55



TABLE 2.—Part 2  
Number and kinds of boilers and locomotives in use, number of steam engines, pumps, electric dynamos and air compressors in use, etc.

Names of Operators	County	Number of Boilers				Locomotives				Number of steam engines of all classes	Total horse power	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors	
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Gasoline	Steam	Air							Electric
G. B. Markle Co., Coxe Brothers and Co., Inc., Lehigh Valley Coal Co., A. Pardee and Co., Pardee Brothers and Co., Inc., C. M. Dodson and Co., Upper Lehigh Coal Co., Harwood Coal Co., M. S. Kemmerer and Co., J. S. Wentz and Co., Harleigh Brookwood Coal Co., Hazle Mountain Coal Co., Wolf Coal Co., Thomas R. Reese and Son,	Luzerne,	.....	.....	21	10,100	10,100	.....	19	6	13	50	12,071	15,364	12,448	7	10
.....		.....	.....	58	9,375	9,375	.....	18	6	.....	62	4,855	14,400	8,450	1	1
.....		.....	.....	58	9,220	9,220	.....	9	.....	14	76	18,525	23,100	7,600	.....	.....
.....		.....	330	33	6,255	6,255	.....	16	.....	.....	27	8,500	23,100	7,600	.....	.....
.....		.....	.....	12	4,000	4,000	.....	10	.....	3	1	19	1,440	.....	.....	.....
.....		.....	.....	25	3,600	3,600	.....	9	.....	.....	1	19	1,440	.....	.....	.....
.....		.....	.....	11	2,480	2,480	.....	7	.....	.....	.....	10	2,181	12,100	5,750	.....
.....		.....	.....	.....	.....	.....	.....	3	.....	.....	.....	10	900	3,200	3,200	.....
.....		.....	.....	.....	890	890	.....	1	.....	.....	.....	8	446	6,800	3,600	.....
.....		.....	.....	12	1,800	1,800	.....	1	.....	.....	.....	20	855	1,420	1,420	.....
.....		.....	.....	4	500	500	.....	2	.....	.....	.....	5	300	6,500	3,000	.....
.....		.....	.....	10	1,480	1,480	.....	1	.....	.....	.....	15	1,030	5,100	2,000	.....
.....		.....	.....	3	425	425	.....	.....	.....	.....	.....	8	300	6,300	2,000	.....
.....		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	60	1,180	650	.....
Totals,	.....	11	330	253	50,290	50,620	1	92	12	31	386	55,213	99,115,024	53,668	18	27

\*Jeddo drainage tunnel.

§Drainage into Beaver Brook.

†Steam purchased from Harwood Electric Company.

TABLE 3.—Number of each class of employees inside and outside of mines

Names of Operators	County	Inside										Outside										Grand total
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
G. B. Markle Co., .....	Luzerne,.....	8	12	6	606	698	121	42	17	64	344	1,918	1	4	42	94	73	28	12	613	867	2,785
Coxe Brothers and Co., Inc., ..	Luzerne,.....	4	17	.....	502	119	91	12	11	38	108	902	.....	5	34	48	14	27	10	352	490	1,392
Lehigh Valley Coal Co., .....	Luzerne,.....	9	23	.....	561	190	48	16	22	239	293	1,406	.....	4	48	80	24	72	14	473	715	2,121
A. Pardoe and Co., .....	Carbon,.....	6	10	1	426	349	54	67	15	46	99	1,073	.....	2	57	67	34	16	3	309	488	1,561
Pardoe Brothers and Co., Inc., ..	Carbon,.....	1	12	2	388	104	27	.....	.....	87	17	638	.....	1	27	32	21	9	9	244	355	993
C. M. Dodson and Co., .....	Carbon,.....	1	4	1	160	138	45	8	9	37	30	433	.....	2	21	30	10	12	5	139	261	744
Upper Lehigh Coal Co., .....	Carbon,.....	1	2	.....	62	39	9	.....	4	4	5	116	.....	1	11	22	20	2	3	119	194	310
Harwood Coal Co., .....	Carbon,.....	1	4	.....	146	102	19	2	4	24	5	317	.....	1	13	12	19	1	5	79	133	450
M. S. Kemmerer and Co., .....	Carbon,.....	1	2	.....	53	33	15	.....	3	52	25	199	.....	1	8	14	18	36	23	103	308	450
J. S. Wentz and Co., .....	Luzerne,.....	1	2	.....	56	26	13	.....	5	33	.....	136	.....	1	8	22	14	2	1	66	115	251
Harleigh Brookwood Coal Co., ..	Luzerne,.....	1	2	.....	56	57	14	.....	7	20	.....	157	.....	1	8	6	22	8	1	41	88	245
Hazle Mountain Coal Co., .....	Carbon,.....	1	1	.....	53	47	15	4	6	.....	26	154	.....	1	1	14	28	8	2	48	110	264
Wolf Coal Co., .....	Carbon,.....	1	1	.....	41	19	4	2	2	.....	20	90	.....	1	1	7	.....	.....	.....	7	20	110
Thomas R. Reese and Son, .....	Carbon,.....	1	.....	.....	2	3	.....	.....	.....	.....	.....	6	.....	.....	.....	1	.....	.....	.....	2	3	9
Totals, .....	.....	37	93	10	3,102	1,979	475	153	105	654	987	7,585	10	32	301	466	327	221	70	2,521	3,948	11,543





TABLE 4.—Fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 6	Meter Steneskie, .....	Slavonian,...	Miner, .....	35	M.	1	3	Ebervale, .....	Luzerne,	Instantly killed by fall of coal at face of
16	Howard A. Howells, ..	American,...	Chief clerk, ...	37	M.	1	1	Highland No. 5, ..		robbing while placing a set of timber.
19	Benton Shaver, .....	American,...	Miner, .....	63	M.	1	1	Drifton Nos. 1 and 2, .....		Instantly killed. Struck by a falling post of breaker plane while breaker was burning. Outside.
Feb. 6	Joseph Resetskie, .....	Polish,.....	Miner, .....	47	M.	1	1	Ebervale, .....		Instantly killed by fall of slate at face of robbing.
23	Mike Whiteko, .....	Russian,....	Laborer, .....	40	M.	1	3	Beaver Brook, ....		Fatally injured by stepping in front of car. Outside.
March 1	Steve Medvis, .....	American,...	Laborer, .....	24	S.	....	....	Jeddo No. 7, .....		Instantly killed between car and platform gangway.
9	Aleslo Visantino, .....	Austrian,....	Driller, .....	25	S.	....	....	Lattimer, .....		Fatal injury by fall of coal at face of breast.
15	Thomas Boyzick, .....	Russian,....	Laborer, .....	30	M.	1	2	Beaver Brook, ....		Suffocated by dynamite fumes in drainage tunnel.
April 15	James Scarpstis, .....	Italian,.....	Trackman, ....	50	M.	1	....	Beaver Brook, ....		Instantly killed by fall of coal at face of gangway.
26	Carmel Defulvio, .....	Italian,.....	Laborer, .....	34	M.	1	....	Lattimer, .....		Fatally injured by being run over by small locomotive. Outside.
May 5	Mike Bisel, .....	Italian,.....	Laborer, .....	25	S.	....	....	Jeddo No. 4, .....		Fatally injured by fall of slate in breast.
June 24	Peter Ateavello, .....	Italian,.....	Trackman, ....	35	M.	1	....	Ebervale, .....		Fatally injured by fall of slate in breast. He knocked out a prop that was in the way of putting in track.
July 13	Christ Throne, .....	American,...	Miner, .....	33	M.	1	2	Cranberry, .....		Struck by flying piece of wood from blast of stripping. Outside.
Aug. 7	John Petruskie, .....	Polish,.....	Miner, .....	24	M.	1	....	Highland No. 2, ..		Instantly killed by being run over by trip of stripping cars loaded with clay. Outside.
9	Romeo Bessner, .....	American,...	Patcher, .....	18	S.	....	....	Upper Lehigh, ....		Fatally injured by fall of coal in chute while robbing.
21	John Nazalko, .....	Polish,.....	Laborer, .....	22	S.	....	....	Harleigh, .....		Fatally injured by loaded coal cars in stripping. Outside.
28	Ivan Christolph, .....	Bulgarian, ..	Laborer, .....	33	M.	1	1	Highland No. 5, ..		Suffocated by rush of coal in chute at face of robbing.
										Instantly killed by flying coal from shot in pillar.

Sept.	11	Steve Rutsko, .....	Russian, ....	Laborer, .....	38	M.	1	2	Hazleton Shaft, ...	Fatally injured by rail of slate in breast manway.
	15	Simon Wasdovich, ...	American, ...	Doorboy, .....	18	S.	....	....	Derlinger, .....	Fatally injured by cars. He attempted to get on a trip passing through his door, in tunnel.
	17	Harry Pena, .....	Greek, .....	Miner, .....	50	M.	1	3	Beaver Brook, ....	Instantly killed by fall of slate at face of breast.
Oct.	12	Harry Gush, .....	Greek, .....	Laborer, .....	40	M.	1	2	Beaver Brook, ....	Fatally injured by fall of slate in face of gangway killed by blast. He lighted fuse and was working in hole in face of breast.
	19	Stanley Kascon, .....	Lituanian, ...	Miner, .....	30	M.	1	....	Hazleton No. 1, ...	Instantly killed. Struck by prop that was displaced by slide of rock in buggy gangway.
Nov.	13	Mike Martin, .....	Russian, ....	Laborer, .....	28	M.	1	....	Highland No. 2, ..	Fatally injured. Squeezed between motor and prop on high side of gangway.
	19	Mike Donish, .....	American, ...	Patcher, .....	20	S.	....	....	Spring Mountain, .	Fatally injured by fall of coal at face of robbing on gangway.
	27	John George, .....	Polish, .....	Miner, .....	48	M.	1	4	Ebervale, .....	Instantly killed by fall of slate at face of robbing.
		Michael Ruby, .....	Slavonian, ...	Miner, .....	35	M.	1	3	Beaver Brook, ....	Instantly killed by fall of rock at face of robbing.
	29	Herman Smith, .....	American, ...	Laborer, .....	19	S.	....	....	Derlinger, .....	Fatally injured by blast in cross-cut. There was a misunderstanding between him and the miner working toward him.
Dec.	17	August Carter, Jr., ..	German, ....	Miner, .....	41	M.	1	2	Beaver Brook, ....	

Luzerne,

TABLE 5.—Non-fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan.	8 John Meronick, .....	Austrian,....	Miner, .....	31	M.	Lattimer, .....	Luzerne, .....	Face, neck and hands burned by explosion of gas in chute.
	20 Dominick Gallian, ....	Italian,.....	Slatepicker, .....	15	S.	Sandy Run, .....		Arm fractured by falling against chute in breaker. Outside.
	21 Joseph Swinecrop, ....	Italian,.....	Laborer, .....	26	S.	Drifton, .....		Shin fractured between top of door and brake wheel on railroad at breaker. Outside.
	26 William Mealing, .....	American,....	Driver, .....	23	M.	Sandy Run, .....		Rib fractured. Squeezed between mule and car on gangway.
	27 Roman Burdash, .....	Slavonian,...	Miner, .....	31	M.	Hazleton Shaft, .....		Back bruised by fall of coal at face of breast.
Feb.	2 David Price, .....	Welsh, .....	Hitcher, .....	26	M.	Harleigh, .....	Carbon, .....	Hand crushed by machinery of electric pump.
	3 John Bonczuskie, .....	Polish, .....	Laborer, .....	29	M.	Harleigh, .....		Foot slightly squeezed by cars on grade gangway.
	5 Adam Beam, .....	American,....	Driver, .....	19	M.	Harleigh, .....		Shoulder bruised by cars on gangway. A rush at the head of the mine.
	12 John Wear, .....	Welsh, .....	Miner, .....	31	M.	Beaver Brook, .....		Head lacerated and knee injured by fall of coal at head of the mine.
	13 John Jasinski, .....	Polish, .....	Miner, .....	45	M.	Jeddo No. 4, .....		Face and body lacerated by flying coal from blast in cross-cut.
	16 John Sherlo, .....	Austrian,....	Driver, .....	20	S.	Spring Brook, .....	Luzerne, .....	Leg fractured and ankle injured by cars on gangway.
	20 Thomas Gillespie, .....	American,....	Doorboy, .....	20	S.	Drifton, .....		Jaw bone fractured and ear cut by being caught between car and timber on gangway.
	22 John Kish, .....	American,....	Slatepicker, .....	15	S.	Sandy Run, .....		Shin bone fractured while trying to extricate himself hurriedly from between the pipes of a radiator. Outside.
March	24 John Burka, .....	Polish, .....	Miner, .....	45	M.	Wolf, .....		Small bone in leg fractured by fall of coal in breaker. Outside.
	3 John Pelack, .....	Slavonian,...	Loader, .....	23	S.	Lattimer, .....		Leg crushed between railroad cars at breaker. Outside.
	Daniel Conlin, .....	American,....	Miner, .....	40	M.	Lattimer, .....	Luzerne, .....	Sight of eye destroyed and face and body lacerated by flying coal from a blast while on his way home along gangway.
	5 John Fedor, .....	American,....	Miner, .....	29	M.	Lattimer, .....		Arm severely lacerated by fall of coal in chute.



TABLE 5.—Continued

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Oct. 9	Frank Burke, .....	American,...	Jig-runner, .....	19	S.	Hazleton No. 1, .....	Luzerne, ....	Skull fractured by falling from breaker to the ground a distance of 25 feet. Out-side.
12	Henry Carter, .....	German,....	Miner, .....	36	M.	Beaver Brook, .....		Small bone in leg fractured and scalp lacerated by fall of slate in gangway. His laborer was fatally injured at the same time.
	George Knyrim, .....	American,...	Engineer, .....	56	M.	Eckley, .....		Shoulder dislocated by falling from platform a distance of 7 feet, when wrench slipped from steam pipe. Outside.
26	Andrew Stashko, .....	Slavonian,...	Miner, .....	49	M.	Lattimer, .....		Eye injured by falling coal while in the act of barring.
Nov. 6	Silvia Corrasa, .....	Austrian,...	Laborer, .....	21	S.	Hazle Brook, .....		Back injured. Caught between car and collar on slope.
13	Roger Hinterltnr, ...	American,...	Miner, .....	32	M.	Deringer, .....		Pelvis fractured by fall of coal at face of breast.
19	Ralph Yanzuzzi, .....	Italian,.....	Breakerman, .....	22	M.	Lattimer, .....		Hand injured by machinery on breaker. Outside.
28	Andrew Subal, .....	American,...	Laborer, .....	17	S.	Lattimer, .....		Concussion of brain. He fell a distance of 15 feet on breaker while stepping out of the way of visitors.
Dec. 1	Gottlieb Ahlborn, ....	American,...	Motorman, .....	30	M.	Ebervale, .....		Leg broken by falling ammunition. Caught between the bumpers of empty car and motor on gangway.
17	Mike Sabo, .....	Slavonian,...	Driver, .....	27	M.	Sandy Run, .....		Small bone in leg fractured by cars on gangway.
22	Edward Strook, .....	Slavonian,...	Miner, .....	25	M.	Lattimer, .....	Highland No. 5, .....	Hands, face and neck burned by hot coal falling upon him while working at mine fire.
21	Price Youngman, .....	American,...	Surveyor, .....	42	M.			Pelvis fractured and urethra ruptured by being squeezed between air-motor and car containing timber on gangway.



## BREAKER FIRES

At about 10 o'clock P. M. on January 15, fire was discovered in the Highland No. 5 breaker of the G. B. Markle Company. The officials of the company were having a social session in the Casino at Jeddo when the alarm of fire was given, and they immediately went to the scene of the fire and put forth every effort to extinguish it. As the fire started near the top of the breaker it was very difficult to reach the flames with the streams of water from the hose, and in a short time it was found that the breaker could not be saved, and the efforts of the fire fighters were turned toward saving the boiler house and other buildings in close proximity to the burning structure, and preventing the fire from communicating with the underground workings through the slope. This was done by cutting away the breaker plane a safe distance from the mouth of the slope.

Preparations were made in a short time, by making a few changes inside the mine, to take the coal from No. 5 and prepare it at the Jeddo No. 4 breaker, and the surplus which could not be handled at Jeddo No. 4 was taken to Jeddo No. 7 breaker, which was operated night and day until the new breaker was erected at No. 5. The new breaker, which is constructed of steel, began the preparation of coal about August 3, and has a capacity of 2000 tons per day.

At about 2 o'clock A. M. on May 25, fire was discovered in the Lattimer breaker of Pardee Brothers and Company Incorporated. The fire originated in the breaker engine house, presumably through some of the machine gang, who were making some repairs to the breaker that night, igniting material in the engine room and leaving it without being noticed. In a short time the whole engine house was aflame which communicated with the breaker, and the fire got beyond control, and in a very short time the whole breaker was a mass of ruins. The old No. 3 breaker was pressed into service, remodeled and made to handle considerable of the coal during the time that the new breaker was being constructed. A few cars were run through the new breaker on December 15, but it did not take all the coal until the latter part of December. The new breaker has a capacity of about 2000 tons per day.

## CONDITION OF COLLIERIES

## G. B. MARKLE COMPANY

Jeddo No. 4 and Elbervale Colliery.—Ventilation, roads, drainage and condition as to safety, good.

Jeddo No. 7 Colliery.—No. 3 and Wharton Slopes: Ventilation, roads, drainage and condition as to safety, good.

Highland Nos. 2 and 5 Collieries.—Ventilation, roads, drainage and condition as to safety, good.

## COXE BROTHERS AND COMPANY, INCORPORATED

Drifton Nos. 1 and 2, Deringer, Gowen and Tomhicken, Eckley and Buck Mountain Collieries.—Ventilation, roads, drainage and condition as to safety, good.

## LEHIGH VALLEY COAL COMPANY

Hazleton No. 1, Hazleton Shaft, Spring Mountain and Spring Brook Collieries.—Ventilation, roads, drainage and condition as to safety, good.

## A. PARDEE AND COMPANY

Cranberry Colliery.—Ventilation good, roads and drainage, fair. Condition as to safety, good.

## PARDEE BROTHERS AND COMPANY, INCORPORATED

Lattimer Colliery.—Ventilation good. Roads and drainage, fair. Condition as to safety, good.

## C. M. DODSON AND COMPANY

Beaver Brook Colliery.—Ventilation good. Roads and drainage, fair. Condition as to safety, good.

## UPPER LEHIGH COAL COMPANY

Upper Lehigh Colliery.—Ventilation good. Roads and drainage, fair. Condition as to safety, good.

## HARWOOD COAL COMPANY

Harwood Colliery.—Ventilation good. Roads and drainage, fair. Condition as to safety, good.

## M. S. KEMMERER AND COMPANY

Sandy Run Colliery.—Ventilation good. Roads and drainage, fair. Condition as to safety, good.

## J. S. WENTZ AND COMPANY

Hazle Brook Colliery.—Ventilation good. Roads and drainage, fair. Condition as to safety, good.

## HARLEIGH BROOKWOOD COAL COMPANY

Harleigh Colliery.—Buck Mountain Slope: Ventilation, roads, drainage and condition as to safety, good.

Fish Tail Slope: Ventilation, roads, drainage and condition as to safety, good.

Spear Point Slope: Ventilation good. Roads and drainage, fair. Condition as to safety, good.

## HAZLE MOUNTAIN COAL COMPANY

Hazle Mountain Colliery.—Ventilation good. Roads and drainage, fair. Condition as to safety, good. Abandoned in August.

## WOLF COAL COMPANY

Wolf Colliery.—Ventilation, roads, drainage and condition as to safety, good.

## THOMAS R. REESE AND SON

Dusky Diamond Colliery.—Ventilation, roads, drainage and condition as to safety, good.

## IMPROVEMENTS

## G. B. MARKLE COMPANY

Jeddo No. 7 Colliery.—Built a hopper and shed over same for handling the Highland No. 5 coal, which was prepared in this breaker at night owing to the destruction of the Highland No. 5 breaker by fire.

Transferred the 150 H. P. electric hoist and house from Slope No. 1 to the new Wharton slope.

Installed 2 Norman flat pickers and 2 spiral separators on chest-nut size.

The slope in the Wharton vein is being continued to basin.

A tunnel has been driven from the Mammoth to the Wharton vein, a distance of 110 feet, for the purpose of development.

A tunnel has been driven from the Holmes to the Mammoth vein, a distance of 60 feet, for robbing purposes.

The stripping operations are still in progress, 395,000 cubic yards of rock having been removed during the year.

Ebervale Colliery.—Installed a 16 by 12 by 10 inch duplex 1000 G. P. M. Worthington pump in boiler room, for fire and fresh water service.

Commenced work on a new central mine timber yard by grading the surface and laying the tracks.

Installed a 12 by 12 $\frac{1}{4}$  by 12 inch air compressor in boiler house for blowing wells.

Completed a 20 by 40 foot colliery washhouse with bath, etc.

Completed a 14 by 40 foot building, which is used as a colliery office, warehouse and first aid room.

The No. 5 stripping is being continued. 500,000 cubic yards of earth and rock were removed during the year.

Two artesian wells have been drilled, one west of southwest reservoir, depth 540 feet, and one northeast of Lake View reservoir, depth 450 feet.

Jeddo No. 4 Colliery.—Erected a 75,000-gallon water tank for the boiler plant.

Installed a new 12-inch main for the breaker exhaust steam heating system.

Installed a 6 by 24 foot 4-deck crank-connected shaking screen in east side of breaker.

Installed a 16 by 12 by 10 inch 1000-G. P. M. duplex Worthington pump in boiler feed room for fire service.

Built a 30 by 48 by 9 foot stable at the shaft to replace the one destroyed by fire.

Built a new slush trough, 600 feet long, from the Hammer crusher in the breaker to the new bore hole, for flushing the crushed refuse into the mines.

Installed 2 Norman flat pickers in the west side of the breaker.

Built a 52-foot addition to locomotive house.

Built a 21 by 12 by 250-foot car-heating or thawing shed at the breaker for the east side.

Erected a 16 by 74-foot building, which is used as a colliery office, warehouse and first aid room.

Built a 20 by 50-foot colliery washhouse, with shower baths, etc.

Built a stocking plant for stocking prepared coal. This plant consists of two inclined conveyors, which will stock 50,000 tons each, at the rate of 125 tons per hour per conveyor. The conveyors are driven by a 100 H. P. 13 by 16-inch engine.

Put a new 25-ton revolving steam shovel into service picking up stock coal.

Put a new 18-ton saddle tank locomotive into service.

Flushing is being continued in the Mammoth and Wharton veins.

The various slate and culm bank deposits are being picked up and run through the washery.

A highway has been built from the west end of Oakdale village, a distance of 3300 feet, which eliminates two grade crossings, heavy grades and curves.

A highway has been built from a point west of West Oakdale village to replace the Stockton highway which is on the site of proposed Mammoth vein stripping.

A slope has been sunk in the shaft workings of the Orchard vein, a distance of 130 feet and an 8 by 10 Flory hoisting engine installed.

A tunnel has been driven in the shaft workings from Orchard to Primrose vein, a distance of 60 feet.

A rock hole 70 feet long has been driven from the Primrose to Orchard vein, and buggy gangways are being driven east and west therefrom.

Two airshafts have been sunk from the surface to the Primrose vein, a depth of 40 feet each.

Two airshafts have been sunk from the surface to the Orchard vein, a depth of 35 feet each.

An airshaft has been sunk from the surface to the Wharton vein, a depth of 40 feet.

A slope has been started in the east spoon of the Jeddo basin, Wharton vein, for development purposes.

An 8-inch bore hole has been drilled east of No. 4 slope for flushing the Mammoth and Wharton vein breasts.

An artesian well has been drilled on the south side of property, a depth of 570 feet.

Excavation was begun and completed for the changing of empty stand tracks in vicinity of Jeddo No. 4 breaker, preparatory to stripping Mammoth vein under present tracks.

A stripping has been started on the south side of the Jeddo property to uncover a local basin in the Wharton vein. 475,000 cubic yards of earth and rock have been removed to date.



Highland No. 5 Colliery.—Built an addition to the smithshop and installed a drill press and bolt cutter.

Built a 15 by 45 foot lumber shed near carpenter shop.

Installed a 16 by 12 by 10 inch 1000-G. P. M. Worthington duplex pump in boiler feed room for fire service.

Installed a new 14 by 8 by 12 inch duplex boiler feed pump.

The old frame breaker which was destroyed by fire January 15, 1915, was replaced by a steel breaker that was put into operation August 2, 1915, 199 days after the fire. The structure consists of structural steel, with concrete floors; the sides are covered with corrugated iron and the roof with asbestos-protected corrugated steel. It is equipped with an exhaust heating system, electric lights and signals, a fire system, and all modern appliances. The machinery is driven by a pair of 16 by 36 inch 500 H. P. Corliss engines.

A temporary dump chute was built for the purpose of loading the coal in railroad cars and shipping to Jeddo No. 7 for preparation during the erection of the steel breaker.

A tunnel has been driven from the Buck Mountain vein to the Gamma vein, a distance of 180 feet, for development purposes.

There have been 12 sets of steel timber with concrete reinforcement placed at the mouth of the Trial Slope.

Three rock holes, each 12 feet in length, have been driven from the No. 8 vein to the No. 9 vein.

The Plane "L" Gamma and the No. 10 veins are worked out and abandoned.

An artesian well has been drilled northeast of colliery, a depth of 600 feet.

Highland No. 2 Colliery.—Built a 30 by 50 foot power house and installed two 160 K. W. 250 volt D. C. engine-driven generators for electric haulage, and a 12 by 14½ by 14 inch air compressor for blowing artesian wells.

Built a new double intake exhaust fan, 16 feet by 4 feet 6 inches, driven by a 6 by 14 by 18 inch compound steam engine.

The sides and roof of the top of the main hoisting slope were concreted and 22 sets of steel mine timber were erected.

The sides and roof of the top of the manway east of the main slope were concreted and 11 sets of steel mine timber erected.

Erected a 75,000-gallon fresh water tank.

The new breaker was completed, which is a frame structure with a steel frame. It is equipped with a heating system, electric lights and signals, fire system and all modern appliances. The machinery is driven by 2 pairs of 14 by 30 inch 300 H. P. Corliss engines, and wash water is delivered by a 2500 G. P. M. 12 by 23 by 14 by 36 inch compound duplex pump.

A hospital S by 12 feet has been driven in rock at the foot of the rock slope.

An artesian well has been drilled north of the Freeland reservoir a depth of 500 feet.

Installed a 7-ton electric locomotive.

Highland No. 6 Slope.—One columnway and one steamway have been driven in the Alpha vein to the surface, preparatory to installing an isolated pumping plant.

An artesian well has been drilled north of reservoir, a depth of 500 feet.

## LEHIGH VALLEY COAL COMPANY

Hazleton No. 1 Colliery.—A concrete pit for car and engine repairs was constructed in the car shop.

A steam cylinder was installed in the breaker to operate the dump gate.

A new office was built for the coal inspector.

A spray system for fighting fires was installed in the breaker.

Steel timber was put in on the 7th level turnout and in several places along No. 1 slope, replacing wood.

A rock tunnel 8 by 12 by 33 feet was driven from the Wharton to the Gamma vein on the 7th level.

From the No. 6 West stripping 287,121 cubic yards of overburden were removed.

Hazleton Shaft Colliery.—The wooden ventilation stack at No. 40 slope was replaced by one made of steel.

A 7-foot high steel stack was erected around the top of the Gamma pump shaft as a precaution against accidents.

A "Roybel" automatic overwinding device was placed on the shaft coal hoisting engine.

An electric signal horn was installed at the Deringer car shed.

A concrete sump for the breaker wash water pump was constructed.

The breaker silt and refuse conveyor lines were extended during the year.

A portable boiler stock coal conveyor was erected at the boiler house.

A 1½-inch bolt cutter was installed in the machine shop. A spray system for fighting fire was installed in the breaker.

An 18-inch terra cotta drain was put in to drain the breaker elevator pit.

A turnout and engine house were made, and an electric hoist was installed for a slope to be sunk to the basin of the West Tracy vein.

A brick dam 9 feet thick was built in the tunnel connecting the rock slope Gamma gangway with the Wharton vein. Installed a device for locking the fans and gates at the first and second lifts of the shaft when not in use.

From the Hazleton No. 5 North stripping during the year 163,912 cubic yards of cover were removed.

Spring Mountain Colliery.—A Thew revolving steam shovel was placed in the stripping to load coal.

An automatic track signal was placed in the Oneida coal shed.

A locomotive crane was installed in the timber yard to facilitate the handling of timber for the mine. The silt and ash conveyor lines were extended.

Four spiral separators were placed in the breaker; also a spray system for fighting fire.

A water tank for locomotive use was erected. The electric haulage was extended to the Lykens rock slope workings.

From the Northwest stripping 123,499 cubic yards of cover were removed.

Spring Brook Colliery.—A concrete floor was placed in the shaft engine house, and the entire building fireproofed.

A new 10-inch column pipe was laid in the shaft from the bottom to the top.



## COXE BROTHERS AND COMPANY, INCORPORATED.

Drifton Nos. 1 and 2 Colliery.—The work of remodeling the breaker was commenced. The old timber at the mouth of No. 1 slope was replaced with 12 inch, 10 inch and 8 inch "I" beams resting on concrete side walls, for a distance of 70 feet from the mouth.

Concrete side walls were erected along the north and east sides of the G. and M. pump house and the floor concreted.

To facilitate transportation, a rock skip was taken off the East tunnel near the N. E. Wharton gangway. The mouth of the No. 2 tender slope was improved by the removal of the old timber and in their stead placing 15 inch "I" beams resting on concrete side walls for a distance of 65 feet from the mouth.

From the Lattimer stripping 9,099 cubic yards of cover were removed.

Deringer and Gowen Colliery.—A portable stock coal conveyor was installed. Telephones were installed at the following places: Top and bottom of Nos. 2 and 4 shafts, shaft engine house and Mine Foreman's office at Deringer, Gowen No. 4 Mine Foremen's office, No. 4 slope engine house and bottom of No. 4 slope.

The steam lines leading from the Gowen boiler house to the Diagonal slope and No. 3 fan were removed and new lines put in on the north side of Roberts Run.

A tile washhouse 18 by 22 feet with a cement floor, was erected near the Gowen Creek tunnel.

No. 14 tunnel was driven from the north dip of the Gamma vein to the Wharton.

The Deringer drift mouth was remodeled by removing the wood timber and replacing with steel and concrete.

From the Gowen south crop stripping 195,894 cubic yards of cover were removed.

Tomhicken Colliery.—An 8-foot Elliott electric fan was erected on the Buck Mountain vein.

A tile substation was erected to take care of proposed electric haulage.

Eckley Colliery.—An underground slope was sunk in the Wharton vein south dip of a local basin in No. 6 slope and an engine and pump installed.

During the year the No. 8 stripping was completed with the removal of 8,276 cubic yards of cover.

Council Ridge.—The work of enlarging and regrading the No. 1 tunnel was commenced.

The third section stripping was completed and the fourth and fifth sections started during the year.

From the different Council Ridge strippings the following number of cubic yards of overburden were removed: Third Section, 53,478; Fourth Section, 354,028; Fifth Section, 32,251; No. 11 Section, 201,855; No. 12 Section, 204,423.

## PARDEE BROTHERS AND COMPANY, INCORPORATED

Lattimer Colliery.—A new breaker, No. 5, with a capacity of 2,500 tons and with all modern machinery and improvements, has been erected on the site of old No. 4 breaker, which was destroyed by fire May 25, 1915. After the destruction of No. 4 breaker by fire, many

improvements were made in No. 3 breaker in the way of new rolls, spirals, jigs, conveyor lines, etc., in order to get it in condition to handle the run of mine coal.

A new head frame and coal pocket has been erected at the top of No. 20 slope.

A new 3 inch steam line was run from the main line to No. 22 West to Slope "B," a distance of 2,200 feet.

A new steel hospital building, 10 feet by 12 feet, has been placed in the second lift of Slope No. 27.

A tunnel 7 feet by 11 feet has been driven from the Gamma vein to the Mammoth vein, a distance of 100 feet, on the east side of Slope No. 27, first lift.

A rock hole 6 feet by 8 feet and 65 feet in length has been driven from the Gamma vein to the basin of the Mammoth vein on the east side of Slope No. 27, third lift.

A rock hole 6 feet by 8 feet and 56 feet in length has been driven from No. 2 East Gamma gangway to the basin of the Wharton vein at the foot of Slope No. 24.

Milnesville.—The Milnesville drainage tunnel has been advanced 650 feet during the year, leaving about 850 feet to be driven to reach a point under Milnesville shaft.

### MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held at the Young Men's Christian Association Building, Hazleton, May 18 and 19. The Board of Examiners was composed of David J. Roderick, Mine Inspector; John J. Turnbach, Superintendent, Hazleton; James North, Miner, Drifton; John O'Hara, Miner, Hazleton.

The following persons passed a satisfactory examination and were granted certificates.

### MINE FOREMEN

Bernard J. Sharpe, Samuel Watkins, Lansford; Robert L. Sinyard, Robert Black, Summit Hill; Timothy Maloney, Francis A. Gallagher, Drifton; John Rhoda, Freeland; Grover C. Lesser, Upper Lehigh; Edmund Williams, Sandy Run; John K. O'Donnell, Eckley; John J. Dougherty, McAdoo; Edward Quirk, Tresckow.

### ASSISTANT MINE FOREMEN

William L. Williams, Lansford; John Sharpe, William L. Evans, Walter Spiegelholder, Summit Hill; John E. Lewis, Nesquehoning; Henry Klose, Albert Kocay, Joseph Stoffa, Freeland; James Mulhall, Joseph A. Thomas, Drifton; William S. Gallagher, Frank Fay, Tresckow; Joseph Lawrence, Samuel Martinovich, Tomhicken; Frederick O. Lesser, Upper Lehigh; Theodore Weaver, Sandy Run; Simon Fellin, Deringer; Hugh Ferry, McAdoo; Anthony McHale, Jeanesville; John C. Somers, Milnesville; James O'Hara, Frank Kracoski, Thomas James, Hazleton.

## TWELFTH DISTRICT

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SCHUYLKILL COUNTY

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Mahanoy City, Pa., February 18, 1916.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor of transmitting herewith my annual report as Inspector of Mines for the Twelfth Anthracite District, for the year ending December 31, 1915.

Respectfully submitted,

P. C. FENTON,  
Inspector

## SUMMARY OF STATISTICS

Number of collieries, .....	8
Number of mines, .....	21
Number of mines in operation, .....	21
Number of tons of coal shipped to market, .....	2,246,496
Number of tons used at mines for steam and heat, .....	423,795
Number of tons sold to local trade and used by employees, .....	40,046
Number of tons produced, .....	2,710,337
Number of tons produced by compressed air machines, .....	
Number of tons produced by electrical machines, .....	
Number of persons employed inside of mines, .....	4,759
Number of persons employed outside, .....	2,004
Number of fatal accidents inside of mines, .....	11
Number of fatal accidents outside, .....	
Number of non-fatal accidents inside of mines, .....	12
Number of non-fatal accidents outside, .....	
Number of tons of coal produced per fatal accident inside, .....	246,394
Number of tons produced per fatal accident outside, ..	
Number of tons produced per fatal accident inside and outside, .....	246,394
Number of persons employed per fatal accident inside, ..	433
Number of persons employed per fatal accident outside, ..	
Number of persons employed per fatal accident inside and outside, .....	615
Number of persons employed per non-fatal accident inside, .....	396
Number of persons employed per non-fatal accident outside, .....	
Number of persons employed per non-fatal accident inside and outside, .....	564
Number of wives made widows, .....	9
Number of children made orphans, .....	31
Number of steam locomotives used inside of mines, ....	17
Number of steam locomotives used outside, .....	
Number of compressed air locomotives used inside, ....	17
Number of compressed air locomotives used outside, ..	
Number of electric motors used inside, .....	{16}
Number of electric motors used outside, .....	{ }
Number of gasoline locomotives used inside, .....	
Number of fans in use, .....	21
Number of furnaces in use, .....	
Number of gaseous mines in operation, .....	21
Number of non-gaseous mines in operation, .....	
Number of new mines opened, .....	
Number of old mines abandoned, .....	

## TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
Philadelphia and Reading Coal and Iron Company, ....	2,099,055
Lehigh Valley Coal Company, .....	611,282
Total, .....	<u>2,710,337</u>

## Production by Counties

Schuylkill, .....	<u>2,710,337</u>
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TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Total	Outside	Inside	Total	Outside	Inside									
Philadelphia and Reading Coal and Iron Co., .....	9	.....	9	11	.....	11	233,228	190,823	3,994	1,635	5,629	443	.....	363	.....
Lehigh Valley Coal Co., .....	2	.....	1	1	.....	1	305,641	611,282	765	369	1,134	382	.....	765	.....
Totals and averages, .....	11	.....	11	12	.....	12	246,394	225,861	4,759	2,004	6,763	433	.....	396	.....







TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	Totals	December	November	October	September	August	July	June	May	April	March	February	January
Welsh, .....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
German, .....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Polish, .....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Slavonian, .....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lithuanian, .....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Austrian, .....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Greek, .....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals, .....	11	2	1	1	1	2	.....	1	.....	.....	2	.....	1

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	Totals	December	November	October	September	August	July	June	May	April	March	February	January
American, .....	5	.....	.....	.....	.....	1	.....	.....	.....	2	.....	.....	.....
English, .....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Polish, .....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lithuanian, .....	4	.....	.....	1	.....	.....	.....	1	1	.....	2	.....	.....
Syrian, .....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
Totals, .....	12	.....	2	1	1	1	.....	1	1	2	2	.....	.....

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Philadelphia and Reading Coal and Iron Co.																
Ellangowan Colliery:																
Ellangowan, .....	Shaft, ..	Gaseous, ..	Fan, ...	20	6.5	6.0	80	1.4	{ Gulbal, ... }	Steam, ...	..	10	70,602	9,875	71,169	181
Ellangowan, .....	Slope,...			15	7.0	6.6	76	.5			..	..	73,025	1,075	73,529	197
Ellangowan, .....	Slope,...			15	7.0	6.6	76				..	7	79,552	7,475	80,043	289
Saint Nicholas Colliery:																
Saint Nicholas, .....	Slope,.....	Gaseous, ..	Fan, .....	21	7.0	6.6	90	2.3	Gulbal, ...	Steam, .....	..	10	44,060	36,030	44,900	230
Suffolk Colliery:																
Suffolk, .....	{ Slope,...	Gaseous, ..	Fan, ...	18	6.5	5.6	60	1.4	{ Gulbal, ... }	Steam, ...	..	5	25,614	18,988	36,111	74
Suffolk, .....				18	6.5	5.6	60	1.2			..	3	28,112	11,969	28,445	50
Suffolk, .....				18	6.5	5.6	60	1.1			..	2	13,663	7,385	13,789	46
Maple Hill Colliery:																
Maple Hill, .....	{ Shaft, ..	Gaseous, ..	Fan, ...	21	7.0	6.6	75	1.9	{ Gulbal, ... }	Steam, ...	..	10	72,370	36,260	73,500	380
Maple Hill, .....				21	7.0	6.6	75	1.9			..	8	67,400	34,600	68,100	280
Maple Hill, .....				21	7.0	6.6	73	1.7			..	9	38,200	21,400	38,800	244
Tunnel Ridge Colliery:																
Tunnel Ridge, .....	Slope,.....	Gaseous, ..	Fan, .....	21	7.0	6.3	85	2.5	Gulbal, ....	Steam, .....	..	4	67,578	18,222	69,303	95
Tunnel Ridge, .....	Slope,.....	Gaseous, ..	Fan, .....	15	7.0	6.6	88	2.6	Gulbal, ....	Steam, .....	..	10	75,354	25,515	77,335	117
Mahanoy City Colliery:																
Mahanoy City, .....	Slope,.....	Gaseous, ..	Fan, .....	21	7.0	6.3	86	2.0	Gulbal, ....	Steam, .....	..	10	69,830	20,930	72,130	130
Mahanoy City, .....	Slope,.....	Gaseous, ..	Fan, .....	12	3.5	3.0	80	.9	Gulbal, ....	Steam, .....	..	7	49,708	35,000	50,311	117

North Mahanoy Colliery:	Slope,.....	Gaseous, ..	Fan, .....	21	7.6	6.3	83	1.1	Gulbal, ....	Steam, .....	8	127,230	65,660	130,750	333
North Mahanoy, .....															
Lehigh Valley Coal Co.															
Park Colliery:															
Park No. 1,.....				9	4.0	6.1	110	1.0	Sirocco, .		10	33,550	23,500	37,250	110
Park No. 2,.....				8	4.0	4.11	130	1.0	Sirocco, .		10	41,500	35,200	47,650	69
Park No. 3,.....				16	5.4	4.5	85	1.5	Sirocco, .		8	91,000	7,100	91,000	119
Park No. 4,.....				12	3.5	3.0	130	1.5	Sirocco, .		5	18,800	1,450	18,900	130
Park No. 7, .....				12	3.0	1.5	130	.8	Sturtevant.		5	17,900	1,500	18,000	41
Primrose Section, .....				8	4.0	4.6	140	1.8	Sirocco, .		10	151,675	137,152	158,740	211

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superin- tendent	Post Office	Railroad to Mine
Philadelphia and Reading Coal and Iron Co. Blaingowan, ..... Safon, Nicholas, ..... Safon, ..... Maple Hill, ..... Tunnel Ridge, ..... Mahanoy City, ..... North Mahanoy, .....	Schuyl. Co., .....	W. J. Richards, ....	Pottsville, .....	Edward Kaercher, ..	Pottsville, .....	Philadelphia and Reading
Lehigh Valley Coal Co. Park Place, ..... Springdale Washery, ....	Schuylkill, .....	Thomas Thomas, ....	Wilkes-Barre, .....	T. R. Jones, .....	Park Place, .....	Lehigh Valley



TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Philadelphia and Reading Coal and Iron Co.													
Ellengowan, .....	{ Schuylkill, }	296,745	41,280	1,058	339,093	215	1,165	2	2	155,275	72,537	.....	66
Saint Nicholas, .....		132,877	28,262	945	193,364	231	639	1	1	59,599	37,777	21,787	66
Schuylkill, .....		248,865	66,667	1,272	315,466	214	1,374	1	1	211,175	130,555	52,512	67
Maple Hill, .....		498,737	74,593	752	573,686	129	448	2	4	13,025	50,485	8,179	52
Tunnel Ridge, .....		177,703	33,832	30,702	242,237	215	619	1	1	46,575	73,770	495	51
Mahanoy City, .....		272,745	45,056	3,033	320,834	211	762	1	.....	47,025	94,395	.....	65
North Mahanoy, .....													
Totals, .....		1,755,201	306,691	37,153	2,099,055	.....	5,629	9	11	526,650	542,778	82,903	391
Lehigh Valley Coal Co.													
Park Colliery, .....	{ Schuylkill, }	389,762	117,012	2,883	509,657	230	1,101	2	1	126,775	71,393	107,474	106
Springdale Washery, .....		101,833	52	.....	101,625	249	33	.....	.....	.....	.....	.....	.....
Totals, .....		491,595	117,104	2,883	611,282	.....	1,134	2	1	126,775	71,393	107,474	106
Grand totals, .....		2,246,496	423,795	40,046	2,710,337	.....	6,763	11	12	653,425	614,171	190,377	497

TABLE 2.—Part 2  
Number and kinds of boilers and locomotives in use, number of steam engines, pumps, electric dynamos and air compressors in use, etc.

Names of Operators	County	Number of Boilers				Locomotives				Total horse power	Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Gasoline	Steam	Air	Electric							
Philadelphia and Reading Coal and Iron Co., .....	Schuylkill, .....	.....	.....	124	15,550	15,550	....	13	17	11	250	35,767	22	46,102	12,350	2	11
Lehigh Valley Coal Co., .....	Schuylkill, .....	.....	.....	29	6,550	6,550	....	4	....	5	85	11,738	12	17,500	8,550	1	2
Totals, .....	.....	.....	.....	153	22,100	22,100	....	17	17	16	335	47,505	34	63,602	20,900	3	13

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Grand total	
		Inside	Outside
		Total inside	Total outside
		All other employes	All other employes
		Company men	Bookkeepers and clerks
		Pumpmen	Slatepickers (men)
		Doorboys and helpers	Slatepickers (boys)
		Drivers and runners	Engineers and firemen
		Miners' laborers	Blacksmiths and carpenters
		Miners	Foremen
		Fire bosses and assistants	Superintendents
		Assistant mine foremen	
		Mine foremen	
Philadelphia and Reading Coal and Iron Co., .....	Schuylkill,	3,994	1,635
Lehigh Valley Coal Co., ..	Schuylkill,	1,182	968
Totals, .....		5,176	2,603



TABLE 4.—Fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 30	Andrew Serano, .....	Slovonian, ..	Timberman, ..	32	M.	1	5	Mahanoy City,	Schuylkill ..	Instantly killed by fall of coal while placing car on track in main gangway.
March 19	Anthony Kochanavich, .....	Lithuanian,	Miner, .....	55	M.	1	7	Tunnel Ridge,		Fatally injured by explosion of gas at face of breast caused by an outburst of gas in gangway. Died April 6.
23	George Shuhite, .....	Greek, .....	Driver, .....	23	S.	....	....	Maple Hill, ..		Fatally injured by falling under mine car on main gangway. Died March 25.
June 9	Stiney Krancofsky, .....	Polish, .....	Miner, .....	30	M.	1	....	Saint Nicholas,		Instantly killed by falling timber in traveling cable haulage. Died April 10.
Aug. 10	William Yatsco, ....	Polish, .....	Miner, .....	51	M.	1	....	Ellangowan, ..		Internally injured by fall of slate at face of breast. Died August 16.
13	John Kutshshick, ....	Polish, .....	Laborer, .....	27	S.	....	....	Suffolk, .....		Instantly killed by fall of rock at face of gangway while preparing for a blast.
Sept. 21	William B. Jones, ....	Welsh, .....	Assistant mine foreman,	54	M.	1	....	Maple Hill, ..		Instantly killed by fall of coal at face of gangway while instructing the miners how to secure the place.
Oct. 11	Andrew Stanick, ....	Austrian, ..	Laborer, .....	25	M.	1	....	Park Place, ..		Fatally injured by a piece of coal that rolled down and struck him on the head, at face of slope. Died on way to hospital. Died December 2.
Nov. 29	Mike Marchavage, ....	Lithuanian,	Miner, .....	55	M.	1	7	Park Place, ..		Fatally injured by falling down chute in getting away from blast. Died December 2.
Dec. 3	Henry Kellman, .....	German, ....	Miner, .....	41	M.	1	6	North Mahanoy,		Killed by fall of rock while robbing pillars on counter gangway.
11	Charles Oditus, .....	Lithuanian,	Miner, .....	37	M.	1	6	Ellangowan, ..		Killed by fall of slate at face of breast.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
March 19	Andro Stushitis, ....	Lithuanian, .....	Miner, .....	42	M.	Tunnel Ridge, .....	Schuylkill ..	Slightly burned by gas at face of chute.
25	Frank Keever, ....	Lithuanian, .....	Loader, .....	25	S.	Tunnel Ridge, .....		Foot injured by a dynamite cap exploding while starting coal at battery.
April 8	Ivin Eckler, .....	American, .....	Engineer, .....	39	M.	Maple Hill, .....		Injured by two locomotives colliding in main tunnel.
17	Alex Shoydis, .....	American, .....	St. Johnman, .....	18	S.	Maple Hill, .....		Injured by fall of slate at face of gangway.
May 3	Charles Kline, .....	American, .....	Miner, .....	55	M.	Maple City, .....		Slightly burned by gas at face of breast.
June 5	Anthony Kirooski, .....	Lithuanian, .....	Miner, .....	38	M.	Maple Hill, .....		Injured by a prop falling on him on main gangway.
June 5	John Kranchack, ....	Lithuanian, .....	Laborer, .....	25	S.	Suffolk, .....		Slightly injured by being caught between mine cars.
Aug. 18	Joe Yeskavage, .....	American, .....	Motor helper, ....	18	S.	Park, .....		Slightly injured by fall of coal at face of gangway.
Sept. 21	David John, .....	Syrian, .....	Laborer, .....	23	S.	Maple Hill, .....		Injured by fall of slate at face of robbing.
Oct. 21	Paul Shelitski, .....	Polish, .....	Miner, .....	24	S.	Ellangowan, .....		Injured by fall of coal at face of breast.
Nov. 8	John Jones, .....	American, .....	Miner, .....	30	M.	Saint Nicholas, ....		Injured by being caught between car and timber on main gangway.
Nov. 9	Walter Barlow, .....	English, ...	Runner, .....	29	S.	Ellangowan, .....		



## CONDITION OF COLLIERIES

## PHILADELPHIA AND READING COAL AND IRON COMPANY

Ellangowan, Saint Nicholas, Suffolk, Maple Hill, Tunnel Ridge, Mahanoy City and North Mahanoy Collieries.—Ventilation, drainage and condition as to safety, good.

## LEHIGH VALLEY COAL COMPANY

Park Colliery.—Ventilation, drainage and conditions as to safety, good.

## IMPROVEMENTS

## PHILADELPHIA AND READING COAL AND IRON COMPANY

Ellangowan Colliery.—A tunnel was completed from face of East Middle Split gangway, fifth lift, elevation to connect with Maple Hill, Top Split, No. 5 plane gangway; total length, 123 1-3 yards.

Saint Nicholas Colliery.—A tunnel was completed to Top Split vein from West Bottom Split No. 50 counter gangway; total length, 32 1-3 yards.

A tunnel was driven to Top Split vein from Buck Mountain Water Level.

A tunnel was completed to Seven Foot vein from East Skidmore, Water Level gangway; total length, 23 yards.

Suffolk Colliery.—A rock hole for slushing Top Split No. 8 counter 115 feet, was completed; total length, 56 yards.

An electric hoist was installed for Holmes slope at Suffolk house.

Maple Hill Colliery.—Two rock holes were driven to Primrose vein for airways from Bore Hole slope No. 41 tunnel, Holmes workings, to connect with new 21 foot diameter fan; total length, 67 yards.

A rock hole on 30 degrees pitch, was completed from Bottom Split to Middle Split vein on line of No. 6 bore hole for slushing Bottom Split workings below No. 6 plane level; total length, 27 1-3 yards.

A pump room 20 feet wide by 16 feet high was driven in bottom rock of East Buck Mountain gangway, No. 2 Shaft Level at breast No. 1; total length, 19 yards; and a 27 by 50 by 12 by 48 inch compound pump, with 14 by 20 by 20 inch condenser was installed therein.

Tunnel Ridge Colliery.—The extension of the Lykens Valley Water Level tunnel to Lykens Valley vein was completed; total length, 53 2-3 yards.

North Mahanoy Colliery.—A tunnel to West Buck Mountain gangway first lift, was completed; total length, 88 1-6 yards.

A tunnel to Skidmore vein from Buck Mountain gangway was completed; total length, 56 2-3 yards.

An ash bin and elevators were installed at boiler house to take ashes inside.

Installed a vertical tip and trestle for turnout at west side of breaker for handling coal from Seven Foot drift.

#### LEHIGH VALLEY COAL COMPANY

Park Colliery.—A tunnel under the Lehigh Valley Railroad east of the breaker, and a plane were constructed for the purpose of taking timber to Nos. 3, 4 and 7 and Primrose slopes.

A 10 by 12 inch Flory engine was installed for this plane and housed in a 15 by 17 foot hollow tile building.

An 8 inch rope hole was drilled from the surface to the basin of the Buck Mountain vein.

A 25 horse power gasoline hoist was installed for the driving of the basin slope. The hoist is housed in a 13 foot 6 inch by 16 foot corrugated iron building.

An 8 inch rope hole was drilled from the surface to the basin of the Skidmore vein.

An 11 by 12 inch Brown engine was installed for the driving of the Basin slope, and housed in a 12 by 14 foot corrugated iron building.

A brick compressor house 20 feet 2 inches by 23 feet 1 inch, was constructed at No. 1 slope and a 19 by 12 by 14 inch Chicago air compressor installed therein.

A device to prevent overhoisting with engines was installed on No. 2 slope.

142,810 cubic yards of cover were removed from the Buck Mountain vein, North Dip stripping, making a total of 459,249 cubic yards removed to January 1, 1916.

A 300 B. and W. boiler was transferred from Primrose and installed at No. 4 boiler house.

A conveyor was installed on the north side of Springdale washery.

Park No. 1 Slope.—The slope is being sunk to the second level and steel timbers are set as the slope is being sunk.

A tunnel 478 feet long was driven from the Buck Mountain vein, North Dip, to the Mammoth Bottom Split, South Dip.

Park No. 7 Slope.—A tunnel 57 feet long was driven from the Buck Mountain vein, Bottom Split, to the Buck Mountain vein, Top Split, on the second level.

A tunnel 170 feet long was driven from the Buck Mountain vein, South Dip, to the Seven Foot vein, South Dip, on the second level. Basin slopes are being sunk in the Buck Mountain and Skidmore veins.

Primrose Slope.—An 8-inch steam line was constructed from the No. 4 boiler house to Primrose.

The inside shaft engines (18 by 30 inch Vulcan) were rebuilt and transferred to the Skidmore basin slope. The engines are housed in a 25 by 35 foot concrete and tile building.

An 18 by 36 inch Vulcan engine was installed for the Mammoth basin slope and housed in a 42 by 27 foot concrete and tile building.

The Skidmore basin slope was graded from the surface to the main level.

The timber was removed at the mouth of the tender slope and concrete sidewalls and reinforced concrete roof put in.

## MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held at Mahanoy City, May 18 and 19. The Board of Examiners was composed of P. C. Fenton, Inspector, Mahanoy City; T. R. Jones, Superintendent, Park Place; William Becker, Miner, Mahanoy City; P. H. Devine, Miner, Shaft P. O.

The following persons passed a satisfactory examination and were granted certificates:

## MINE FOREMEN

William Hodgert, William Kirchner, Mahanoy City; Roger Howells, Shenandoah; P. H. Devine, Shaft P. O.

## ASSISTANT MINE FOREMEN

Manus J. Boyle, Peter J. Wills, James F. Carr, Mahanoy City; Charles Sucluskie, George Chesna, Joseph A. Miller, Shenandoah.



## THIRTEENTH DISTRICT

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SCHUYLKILL COUNTY

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Shenandoah, Pa., February 19, 1916.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: In compliance with the Anthracite Mining Laws, I transmit herewith my annual report of the Thirteenth Anthracite District for the year ending December 31, 1915.

Respectfully submitted,

A. B. LAMB,  
Inspector.

## SUMMARY OF STATISTICS

Number of collieries, .....	14
Number of mines, .....	30
Number of mines in operation, .....	30
Number of tons of coal shipped to market, .....	2,738,216
Number of tons used at mines for steam and heat, .....	434,324
Number of tons sold to local trade and used by employes, .....	54,174
Number of tons produced, .....	3,226,714
Number of tons produced by compressed air machines, .....	.....
Number of tons produced by electrical machines, .....	.....
Number of persons employed inside of mines, .....	4,455
Number of persons employed outside, .....	2,508
Number of fatal accidents inside of mines, .....	28
Number of fatal accidents outside, .....	2
Number of non-fatal accidents inside of mines, .....	42
Number of non-fatal accidents outside, .....	3
Number of tons of coal produced per fatal accident inside, .....	115,240
Number of tons produced per fatal accident outside, ..	1,613,357
Number of tons produced per fatal accident inside and outside, .....	107,557
Number of persons employed per fatal accident inside, ..	159
Number of persons employed per fatal accident outside, ..	1,254
Number of persons employed per fatal accident inside and outside, .....	232
Number of persons employed per non-fatal accident inside, .....	106
Number of persons employed per non-fatal accident outside, .....	836
Number of persons employed per non-fatal accident inside and outside, .....	155
Number of wives made widows, .....	18
Number of children made orphans, .....	46
Number of steam locomotives used inside of mines, ..	.....
Number of steam locomotives used outside, .....	45
Number of compressed air locomotives used inside, ....	7
Number of compressed air locomotives used outside, ..	.....
Number of electric motors used inside, .....	13
Number of electric motors used outside, .....	1
Number of gasoline locomotives used inside, .....	.....
Number of fans in use, .....	27
Number of furnaces in use, .....	.....
Number of gaseous mines in operation, .....	24
Number of non-gaseous mines in operation, .....	6
Number of new mines opened, .....	.....
Number of old mines abandoned, .....	2



TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Philadelphia and Reading Coal and Iron Company, ..	1,668,998
Thomas Colliery Company, .....	366,827
Locust Mountain Coal Company, .....	336,942
Harleigh Brookwood Coal Company, .....	335,680
Susquehanna Coal Company, .....	324,483
Cambridge Coal Company, .....	103,729
H. H. Smith and Company, .....	90,055
Total, .....	<u><u>3,226,714</u></u>

Production by Counties

Schuylkill, .....	<u><u>3,226,714</u></u>
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TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Total	Outside	Inside	Total	Outside	Inside									
Philadelphia and Reading Coal and Iron Co.,	22	.....	.....	22	3	23	83,450	.....	2,570	1,308	4,178	130	.....	143	436
Thomas Colliery Co.,	3	.....	.....	3	.....	.....	122,716	.....	290	290	555	98	.....	.....	.....
Loonst Mountain Coal Co.,	2	.....	.....	2	.....	.....	18,135	.....	389	266	655	194	.....	56	.....
Harleigh Brookwood Coal Co.,	1	.....	.....	1	.....	.....	22,379	.....	545	310	855	545	.....	36	.....
Miscellaneous Companies,	.....	.....	.....	.....	.....	.....	.....	.....	356	334	690	.....	.....	.....	.....
Totals and averages,	28	2	30	45	3	45	76,827	.....	4,455	2,508	6,963	159	1,254	106	836

TABLE C.—Causes of Fatal Accidents Inside and Outside of Mines

	Months												Totals	Percentages
	January	February	March	April	May	June	July	August	September	October	November	December		
Inside														
Falls of coal, .....	...	...	...	1	1	1	...	...	1	...	1	1	6	21.43
Falls of slate, .....	...	...	...	1	1	...	...	...	...	...	1	...	2	7.15
Falls of roof, .....	...	...	...	...	...	...	1	...	...	...	1	2	6	21.43
Mine cars, .....	...	...	...	2	1	...	...	1	...	...	...	...	6	21.43
Explosions of gas, .....	...	...	...	...	...	...	...	...	...	...	1	...	1	3.57
Suffocation by gas, etc., .....	...	...	...	...	...	...	...	...	...	...	1	...	1	3.57
Explosions of powder and dynamite, .....	...	...	...	...	...	...	...	1	...	...	...	...	1	3.57
Blasts, premature and otherwise, .....	...	...	1	...	...	...	...	...	...	...	...	...	1	3.57
Falling into slopes, etc., .....	...	...	...	...	...	...	...	...	...	...	1	...	1	3.57
Struck leg against sheet iron, .....	...	...	...	...	...	...	...	...	...	...	1	...	1	3.57
Struck by timber, .....	...	...	...	...	1	...	...	...	...	...	...	...	1	3.57
Drowned, .....	1	...	...	...	...	...	...	...	...	...	...	...	1	3.57
Totals, .....	1	...	1	3	4	1	1	4	1	...	9	3	28	100.00
Outside														
Electricity, .....	...	...	...	...	...	...	1	...	...	...	...	...	1	50.00
Caught by rope, .....	...	1	...	...	...	...	...	...	...	...	...	...	1	50.00
Totals, .....	...	1	...	...	...	...	1	...	...	...	...	...	2	100.00
Grand totals inside and outside, .....	1	1	1	3	4	1	2	4	1	...	9	3	30	.....

TABLE D.—Causes of Non-Fatal Accidents Inside and Outside of Mines

	Months												Totals	Percentages
	January	February	March	April	May	June	July	August	September	October	November	December		
Inside														
Falls of coal, .....	1	1	...	...	...	...	2	...	...	1	...	...	6	14.28
Falls of slate, .....	...	...	...	...	...	...	...	...	...	...	1	...	1	2.38
Falls of roof, .....	1	...	...	...	1	2	...	...	...	1	...	...	5	11.91
Mine cars, .....	1	2	...	1	...	...	1	1	1	...	...	...	6	19.05
Explosions of gas, ....	1	...	...	2	...	1	1	...	...	2	...	...	7	21.43
Struck by rail, .....	...	...	...	...	...	...	...	...	...	...	1	...	2	2.38
Struck by timber, .....	...	...	...	...	...	...	...	...	...	...	...	...	1	4.76
Falling down chute, ..	...	...	...	1	...	...	...	...	...	...	...	...	1	2.38
Rush of coal, .....	...	...	...	...	...	...	...	...	...	...	1	...	5	11.91
Mules, .....	...	...	...	...	...	...	1	...	...	...	...	...	1	2.38
Rush of rock, .....	...	...	...	...	1	...	...	...	...	...	...	...	1	2.38
Injured by axe, .....	...	...	...	1	...	...	...	...	...	...	...	...	1	2.38
Struck by platform, ..	...	...	1	...	...	...	...	...	...	...	...	...	1	2.38
Totals, .....	4	3	1	5	2	3	5	3	1	8	4	3	42	100.00
Outside														
Cars, .....	...	...	...	...	1	1	...	...	...	...	...	...	2	66.67
Struck by piece of rock, .....	...	...	...	...	...	...	...	...	...	1	...	...	1	33.33
Totals, .....	...	...	...	...	1	1	...	...	...	1	...	...	3	100.00
Grand totals inside and outside, .....	4	3	1	5	3	4	5	3	1	9	4	3	45	.....

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
Inside													
Miners, .....	1	.....	1	1	3	1	1	3	1	.....	6	2	20
Miners' laborers, .....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	2	.....	2
Drivers and runners, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1
Machine runners, .....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
Bottommen, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Trackmen, .....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals, .....	1	.....	1	3	4	1	1	4	1	.....	9	3	28
Outside													
Foremen, .....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Blacksmiths and carpenters, .....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
Totals, .....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	2
Grand totals inside and outside, .....	1	1	1	3	4	1	2	4	1	.....	9	3	30

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
Inside													
Fire bosses and assistants, ..	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	2
Miners, .....	2	1	.....	3	1	1	2	1	.....	5	3	2	21
Miners' laborers, .....	.....	1	1	1	1	2	.....	1	1	3	1	.....	11
Drivers and runners, .....	1	1	.....	1	.....	.....	2	.....	.....	.....	.....	1	6
Night bosses, .....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Chargemen, .....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Totals, .....	4	3	1	5	2	3	5	3	1	3	4	2	42
Outside													
Blacksmiths and carpenters,...	.....	.....	.....	.....	1	1	.....	.....	.....	1	.....	.....	1
Laborers, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Totals, .....	.....	.....	.....	.....	1	1	.....	.....	.....	1	.....	.....	3
Grand totals inside and outside, .....	4	3	1	5	3	4	5	3	1	9	4	2	45

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months											
	Totals	December	November	October	September	August	July	June	May	April	March	February
American, .....	4	...	2	...	...	...	1	...	...	1	1	...
English, .....	1	...	...	...	...	...	...	...	...	1	...	...
Welsh, .....	1	...	...	...	...	...	...	...	...	...	...	...
German, .....	1	...	...	...	...	1	...	...	...	...	...	...
Polish, .....	8	...	3	...	...	...	1	1	1	1	...	...
Lithuanian, .....	13	2	4	...	1	1	...	...	3	1	...	1
Greek, .....	2	1	1	...	...	...	...	...	...	...	...	...
Totals, .....	30	3	9	...	1	4	2	1	4	3	1	1

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months											
	Totals	December	November	October	September	August	July	June	May	April	March	February
American, .....	10	...	1	3	...	...	2	...	1	1	1	1
Irish, .....	2	...	1	...	1	1	...	...	...	...	...	...
Polish, .....	13	1	2	4	...	...	1	...	...	3	...	...
Hungarian, .....	1	...	...	...	...	...	1	...	...	...	...	...
Italian, .....	2	...	...	...	...	...	...	...	...	...	...	...
Slavonian, .....	1	...	...	...	...	...	1	...	...	...	...	...
Lithuanian, .....	12	2	...	2	...	1	1	2	1	1	2	1
Austrian, .....	2	...	...	...	...	...	...	...	...	...	...	...
Greek, .....	1	...	...	...	...	...	...	...	...	1	...	...
Syrian, .....	1	...	...	...	...	...	...	...	1	...	...	...
Totals, .....	45	2	4	9	1	3	6	4	3	5	1	3







TABLE I.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Philadelphia and Reading Coal and Iron Co. Indian Ridge Shenandoah City West Shenandoah Kohinoor Turkey Run, .....	{ Schuylkill..... }	E. E. Kaercher, .....	Pottsville, .....	J. B. Garner, Division Supt. Louis Lorenz, Inside District Supt. A. D. Gable, Outside Division Supt. Morgan Bevan, Division Supt. John Dalley, Inside District Supt. W. J. Brown, Outside Division Supt. J. H. Follard, Division Supt. J. P. McDonald, Division Supt. J. H. Pollard, Division Supt. W. H. Richards, Inside District Supt. F. B. Dawson, Outside District Supt.	Shenandoah, ..... Shenandoah, ..... Shenandoah, ..... Ashland, ..... Gilberton, ..... Ashland, ..... Mahanoy City, ..... St. Nicholas, ..... Mahanoy City, .....	P. and R.    P. and R.  P. and R.  
Gilberton, ..... Draper, .....		G. B. Hadesty, .....	Pottsville, .....			
Knickerbocker, .....		E. E. Kaercher, .....	Pottsville, .....			
Boston Run, .....		E. E. Kaercher, .....	Pottsville, .....			
Plank Ridge Washery,* .. Thomas Colliery Co. Kebley Run Black Creek Washery, .. Locust Mountain Coal Co. Weston, .....		W. G. Thomas, .....	Pottsville, .....	John Price, F. L. Kling, .....	Shenandoah, ..... Shenandoah, .....	P. and R. Lehigh Valley  
Harleigh Brookwood Coal Co. Stanton, ..... Lawrence, .....	{ Schuylkill..... }	T. M. Dodson, .....	Bethlehem, .....	B. H. Stockett, .....	Shenandoah, .....	L. V. and P. R. R.
		W. G. Thomas, .....	Pottsville, .....	John Price, .....	Shenandoah, .....	P. and R.
Susquehanna Coal Co. William Penn, .....	Schuylkill, .....	Robert A. Quin, ....	Wilkes-Barre, .....	E. A. Van Horn, ....	Shaft, .....	Pennsylvania
Cambridge Coal Co. Cambridge Washery, .....	Schuylkill, .....	D. R. James, .....	Shenandoah, .....	D. R. James, .....	Shenandoah, .....	P. and R.
H. H. Smith and Co. Hudson Washery, .....	Schuylkill, .....	H. H. Lineaweaver, ...	Philadelphia, .....	Godfrey Laudeman, ...	Pottsville, .....	P. and R.

\*Idle.

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employees	Total production of coal in tons	Number of days worked	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Explosives		
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used
Philadelphia and Reading Coal and Iron Co.												
Indian Ridge, .....	Schuylkill, .....	147,785	20,220	.....	168,005	208	358	5	2	36,025	47,262	.....
Shenandoah, .....		187,246	43,119	36,947	267,312	208	746	1	4	13,875	30,418	23,703
West Shenandoah, .....		396,533	64,128	.....	460,661	.....	566	2	4	12,500	16,481	23,312
Wolfeboro, .....		.....	9,646	.....	9,646	209	213	1	1	19,175	21,825	.....
Thompson Run, .....		.....	.....	.....	.....	451	451	1	3	21,300	32,020	.....
Gilberton, .....		149,536	65,546	6,156	221,255	917	641	1	4	5,950	136,098	15,900
Draper, .....		193,301	27,457	.....	220,758	218	353	5	4	1,625	109,750	6,875
Knickerbocker, .....		116,836	20,961	4	137,797	214	337	2	.....	1,460	34,592	30,575
Boston Run, .....		142,107	41,483	.....	183,590	223	364	2	1	.....	90,075	1,421
Totals, .....		1,333,334	292,563	43,101	1,668,998	.....	4,178	22	23	111,850	508,921	101,786
Thomas Colliery Co.												
Kehley Run, .....	Schuylkill, .....	249,891	18,570	7,606	276,067	263	500	3	.....	109,350	46,936	.....
Black Creek Washery, .....	Schuylkill, .....	37,630	3,130	.....	90,760	102	85	.....	.....	300	.....	.....
Totals, .....		337,521	21,700	7,606	366,827	.....	585	3	.....	109,350	47,236	.....
Locust Mountain Coal Co.												
Weston, .....	Schuylkill, .....	332,342	4,145	455	336,942	240	655	3	7	251,280	.....	251,280
Harleigh Brookwood Coal Co.												
Stanton, .....	Schuylkill, .....	170,930	10,130	.....	181,060	248	300	2	10	.....	103,296	1,000
Lawrence, .....	Schuylkill, .....	103,360	51,270	.....	154,620	174	555	.....	5	.....	94,412	.....
Totals, .....		274,290	61,400	.....	335,680	.....	855	2	15	.....	197,708	1,000

TABLE 2. — Continued

Names of Operators and Collieries	County	Number of horses and mules	Explosives			Number of non-fatal accidents	Number of fatal accidents	Number of employees	Number of days worked	Total production of coal in tons	Number of tons sold to local trade and used by employes	Number of tons used at collieries for steam and heat	Number of tons of coal shipped to market
			Number of pounds of permissible explosives used	Number of pounds of dynamite used	Number of pounds of powder used								
		62	2,425	97,785	7,075	.....	.....	573	240	324,483	2,605	*46,386	275,492
		4	125	.....	125	.....	.....	76	283	105,729	407	5,075	98,247
		.....	.....	.....	.....	.....	.....	41	235	90,055	.....	3,055	87,000
		495	356,616	851,650	479,680	.....	30	6,963	.....	3,226,714	54,174	434,324	2,738,216
Susquehanna Coal Co.	Schuykill, .....												
William Penn. ....	Schuykill, .....												
Cambridge Coal Co.	Schuykill, .....												
Cambridge Washery. ....	Schuykill, .....												
H. H. Smith and Co.	Schuykill, .....												
Hudson Washery. ....	Schuykill, .....												
Grand totals, .....	.....												

\*9,790 tons stocked at mines.

TABLE 2.—Part 2  
Number and kinds of boilers and locomotives in use, number of steam engines, pumps, electric dynamos and air compressors in use, etc.

Names of Operators	County	Number of Boilers					Locomotives				Total horse power	Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute--gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Gasoline	Steam	Air	Electric								
Philadelphia and Reading Coal and Iron Co., .....	{ Schuylkill, ... }	.....	.....	117	14,950	14,950	.....	18	7	8	245	31,334	21	31,411	9,427	3	4	
Thomas Colliery Co., .....		.....	2,700	18	2,700	2,700	.....	10	.....	4	14	1,463	4	5,000	4,700	.....	1	
Lecust Mountain Coal Co., .....		.....	140	3	140	140	.....	11	.....	.....	12	1,280	.....	.....	.....	.....	2	
Hartlegh Brookwood Coal Co., .....		.....	2,700	10	2,700	2,700	.....	4	.....	2	17	3,850	.....	6,000	2,400	.....	3	
Susquehanna Coal Co., .....		.....	2,300	15	2,300	2,300	.....	1	.....	.....	21	1,620	1	1,700	917	.....	1	
Cambridge Coal Co., .....		.....	500	4	500	500	.....	1	.....	.....	7	300	.....	.....	.....	.....	.....	
H. H. Smith and Co., .....		.....	500	.....	500	500	.....	.....	.....	.....	.....	7	244	.....	.....	.....	.....	
Totals, .....	.....	171	23,790	23,790	23,790	23,790	.....	45	7	14	323	40,091	28	44,111	17,444	3	10	

TABLE 3.—Number of each class of employees inside and outside of mines

Names of Operators	County	Inside										Outside										Grand total	
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employees	Total outside		
Philadelphia and Reading Coal and Iron Co., .....	Schuylkill, .....	9	74	3	810	747	139	18	17	293	763	2,870	....	12	52	233	140	70	34	767	1,308	4,178	
Thomas Colliery Co., .....		1	2	4	163	61	11	3	5	5	41	295	2	3	24	21	54	12	5	169	290	585	
Loeust Mountain Coal Co., .....		1	....	....	96	193	10	1	....	84	....	389	1	2	22	13	32	14	5	177	266	655	
Harleigh Brookwood Coal Co., .....		2	2	11	275	113	37	....	8	97	....	545	1	2	22	24	57	20	3	171	310	855	
Schuylkill Coal Co., .....		1	1	11	117	87	36	2	7	9	85	356	....	1	26	26	16	25	8	110	217	573	
Cambridge Coal Co., .....		....	....	....	....	....	....	....	....	....	....	....	1	1	2	16	....	2	1	23	41	76	
H. H. Smith and Co., .....		....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	41	
Totals, .....		14	79	29	1,461	1,201	233	24	37	488	889	4,455	7	23	155	343	314	145	58	1,463	2,508	6,963	





TABLE 4.—Fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 25	John Kripples, .....	Lithuanian,	Miner, .....	57	M.	1	2	Kohinoor, .....	Schuylkill,	Drowned. He was reopening a water course and failed to notice warning to retreat, and the water broke and drowned him. Killed by being caught by loose rope and pulled around shaft. He was guiding a hemp rope that was being wound on a shaft and failed to heed the warning of those around him. Outside.
Feb. 11	Peter Kiltch, .....	American, ..	Foreman, .....	52	M.	1	5	Weston, .....		Killed by being struck by flying coal from blast. He attempted to fire three times at one time and before he left the face of the blast went in and was killed by one of the shots. Outside.
March 22	George Tregea, .....	Welsh, .....	Miner, .....	43	M.	1	5	Boston Run, ..		Killed by being struck by flying coal from blast. He attempted to fire three times at one time and before he left the face of the blast went in and was killed by one of the shots. Outside.
April 12	Joseph Bendrick, ....	Lithuanian,	Driver, .....	19	S.	....	....	Stanton, .....		Killed by being struck by flying coal from blast. He attempted to fire three times at one time and before he left the face of the blast went in and was killed by one of the shots. Outside.
24 27	Joseph Cupstittus, .... Joseph Bradshaw, ..	Polish, .....	Miner, .....	45 60	S. M.	.... ....	.... ....	Weston, .....		Killed by fall of coal at face of breast.
		English, ...	Trackman, ....					Kehley Run, ..		Killed by being crushed by cars. He forgot a trip of cars was being run down a slight grade.
May 4	William Pavvolsky, ..	Polish, .....	Miner, .....	36	M.	1	1	Kohinoor, .....		Killed. While standing in a car helping to lift a long prop into place his feet slipped, and thus the prop fell and crushed his head against the coal face of breast.
7 18	Anthony Pitchalitus, Charles Schlack, .....	Lithuanian, Lithuanian,	Miner, .....	23 25	S. S.	.... ....	.... ....	Gilberton, .....		Killed by fall of coal at face of breast.
			Driver, .....					Indian Ridge, ..		Killed by being crushed by car. He was riding on front bumper of car and fell on track.
June 24 July 16	John Seebrisky, .....	Lithuanian,	Miner, .....	39	M.	1	2	Knickerbocker, ..		Killed by fall of slate at face of breast.
	Peter Sheva, .....	Polish, .....	Miner, .....	35	S.	....	....	Indian Ridge, ...		Killed by fall of coal at face of breast.
	Howard Blank, .....	American, ..	Carpenter, ...	36	M.	1	4	Stanton, .....		Electrocuted. He was working in the breaker and climbed out on the timbers of a trestle crossing the main team road and came in contact with a high power wire belonging to the traction company. Outside.

July Aug.	27 6	Alex Dubitsky, .. John Steff, .....	Polish, .....	Miner, .....	29 26	S. S.	.... ....	Turkey Run, .. Boston Run, ..	Killed by fall of rock at face of breast. To replace an empty car on track on slope by pulling it on with engine. The engineer warned them to get out of the way as he intended to put on extra steam, but instead of going down the slope they went up in front of the car, and when the car started it plunged the side of the slope killing him and injuring the fire boss.
	7 10	George Smevavage, .. George Annavage, ..	Polish, .....	Miner, .....	31 31	M. M.	1 1	Draper, .....	Killed by fall of rock at face of breast. Instantly killed by explosion of dynamite on gangway.
	11	Joseph Zurelskie, ....	Lithuanian, ..	Miner, .....	38	S.	....	Draper, .....	Killed by fall of roof at face of pillar.
Sept.	27	Simon Roidillon, .....	Lithuanian, ..	Miner, .....	34	S.	....	Knickerbocker, ..	He failed to put in props.
Nov.	3	Edward Mort, .....	American, ..	Miner, .....	29	M.	1	West Shenan- doah.	Killed by fall of coal at face of pillar. Killed by falling down manway.
	8	Anthony Kopotchess, ..	Lithuanian, ..	Miner, .....	23	S.	....	Draper, .....	Burned by gas. He went to face of breast with naked light against warn- ing by cars. He was riding up a slope with slight pitch and in some unknown way fell out of car.
	10	Harry Youmitskie, ..	Greek, .....	Laborer, .....	28	M.	1	Kohinoor, .....	Killed by fall of slate at face of breast. He had been told to pull it down.
	13	Michael Denches, ....	Lithuanian, ..	Miner, .....	55	M.	1	Indian Ridge, ..	Fatally injured. He scratched his leg by bumping it against a piece of sheet iron and died in hospital December 22, from blood poison.
	19	Charles Yousholls, ..	Polish, .....	Miner, .....	46	M.	1	West Shenan- doah.	Skull fractured. The bottommen were plac- ing a car on the cage and when the car was half on the engineer started the cage without a signal, and the car was thrown over the gangway and struck Miller on the head.
	22	Joseph Miller, .....	Lithuanian, ..	Bottomman, ..	20	S.	....	Draper, .....	Smothered. They were driving through old breasts in a counter gangway, on heavy pitch, and a prop pushed out and caught his leg, and fine coal and dirt ran out and smothered him. The miner ran for help, but Bushinskie died before he could be rescued.
	23	George Bushinskie, ..	Lithuanian, ..	Laborer, .....	40	M.	1	Draper, .....	Fatally injured by fall of coal at face of breast.
	27	Albert Brown, .....	American, ..	Miner, .....	45	M.	1	Kehley Run, ..	Killed by fall of rock at face of breast.
Dec.	4	Anthony Folcofsky, .. Michael Urvan, .....	Polish, .....	Miner, .....	50 28	M. M.	1 1	Kehley Run, .. Weston, .....	Killed by fall of rock at face of breast. The fire boss told the miners to pull down a dangerous piece of rock or place props under it to make it safe, but they failed to do so and the rock fell an hour afterwards.

Schuylkill.

TABLE 4. —Continued

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Dec. 7	Enock Petrofsky, ....	Lithuanian,	Miner, .....	39	M.	1	2	Shenandoah City.	{ Schuylkill, .. }	Killed by fall of rock. He was laying sheet iron into a pillar and he knocked out two props to make room for it, and the rock fell on him.
30	Sylvester Ambrozis, ..	Lithuanian,	Miner, .....	29	M.	1	2	Indian Ridge, ..		

TABLE 5.—Non-fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 18	Thomas Stanton, ...	American, ..	Driver, .....	13	S.	Gilberton, .....	Schuylkill.	Leg fractured. He neglected to fix the latches and car ran on wrong track and crushed him against loaded trip.
	Joseph Florintine, ...	Italian, .....	Miner, .....	22	S.	Lawrence, .....		Face and hands burned by gas. There was gas in the face of chute and he turned an air hose up and blew the gas down on his naked light.
Feb. 20	John Deriscavage, ...	Lithuanian, ..	Miner, .....	38	M.	Turkey Run, .....		Legs fractured by fall of coal.
Feb. 17	Nicholas Tysan, ...	Italian, .....	Chargeman, ...	23	M.	Stanton, .....		Right arm fractured by fall of rock.
	John Sposky, .....	Lithuanian, ..	Driver, .....	17	S.	Stanton, .....		His trip in time and bumped into cars.
22	George Oates, .....	American, ..	Night boss, .....	50	M.	Weston, .....		Hips and knee bruised. He was riding on the electric motor and the motorman ran into trip of cars.
March 26	Anthony Benduskie, ...	Lithuanian, ..	Miner, .....	57	M.	Stanton, .....		Arm fractured by fall of coal.
April 9	Charles Alko, .....	Greek, .....	Laborer, .....	23	S.	Stanton, .....		Leg fractured. Platform broke down.
April 12	George Foy, .....	American, ..	Driver, .....	17	S.	Draper, .....		Body bruised. He attempted to jump on car while in motion and slipped and fell under it.
13	Paul Petronsky, .....	Lithuanian, ..	Laborer, .....	27	S.	Stanton, .....		Finger cut off while making a wedge.
15	Joseph Vouillek, .....	Polish, .....	Miner, .....	35	S.	Shenandoah City, .....		Body bruised. While standing on plank starting into chute, the plank broke and started him into chute.
21	{ Michael Cossack, ...	Polish, .....	Miner, .....	27	M.	{ West Shenandoah, ...		Burned by gas. They opened their safety lamps in presence of gas.
May 4	{ Peter Shimonas, ...	Lithuanian, ..	Miner, .....	22	S.	{ Draper, .....		Ankles fractured by fall of rock.
8	Michael Alec, .....	Syrian, .....	Laborer, .....	25	S.	Weston, .....		Skull fractured. Caught by rushing rock in chute.
15	Lloyd Eisenhower, ..	American, ..	Laborer, .....	21	S.	Gilberton, .....		Leg fractured by being caught between bumpers of locomotive when it jumped off the track. He was riding on locomotive. Outside track by cars.
June 5	Kinzie Romanick, ...	Austrian, ..	Laborer, .....	20	S.	Gilberton, .....		Outside track by cars.
8	Roman Moscolick, ...	Hungarian, ..	Miner, .....	40	M.	Lawrence, .....		Face and hands burned by gas. He turned on the compressed nozzle and blew gas down on his naked light.

TABLE 5.—Continued

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
June 14	John Evanckes, .....	Lithuanian, .....	Laborer, .....	21	S.	Shenandoah City, .....	Schuylkill,	Arm fractured by fall of rock.
July 19	Wassl Chupko, .....	Austrian, .....	Laborer, .....	22	M.	Lawrence, .....		Leg fractured by fall of rock.
2	Peter Keiper, .....	American, .....	Fire boss, .....	42	M.	Stanton, .....		Face and hands burned by explosion of gas. He used naked light.
7	Francis Delowery, ...	American, .....	Runner, .....	22	S.	Kohinoor, .....		Skull fractured. Car jumped from track and crushed him against timber.
9	John Dunsavage, ....	Lithuanian, .....	Miner, .....	26	M.	Draper, .....		Body bruised and hand lacerated by fall of coal.
21	Adolph Stotsavage, ..	Polish, .....	Miner, .....	23	S.	Weston, .....		Ankle dislocated and head and back lacerated by fall of coal.
28	Charles Landone, ....	Slavonian, .....	Driver, .....	23	S.	Stanton, .....		Skull fractured. Kicked by mule.
Aug. 6	Roger Sherry, .....	Irish, .....	Fire boss, .....	42	M.	Boston Run, .....		Leg fractured. He was helping to replace a car on track on slope by pulling it on with the engine, when the car jumped to one side and caught him.
23	Charles Cutschufskie, ..	Lithuanian, .....	Laborer, .....	25	S.	Weston, .....		Hand and face lacerated. Caught by rush of coal in chute.
23	Elec. Mutulavage, ..	Polish, .....	Miner, .....	25	S.	Weston, .....		Head and face lacerated by rush of coal in chute.
Sept. 17	Alex Youigage, .....	Polish, .....	Laborer, .....	23	S.	Weston, .....		Arm fractured. Crushed by car.
Oct. 4	Frank Chaplinsky, ..	Polish, .....	Miner, .....	25	S.	Weston, .....		Arm fractured and body crushed by rush of coal from rib.
6	Raymond Heshner, ...	Polish, .....	Laborer, .....	22	S.	Turkey Run, .....		Leg fractured.
8	Arny Youigage, .....	Polish, .....	Laborer, .....	21	S.	West Shenandoah, ....		Timber rolled on him.
15	Charles Bant, .....	American, .....	Miner, .....	41	M.	Stanton, .....		Pelvic bone fractured by fall of rock.
20	Peter Bukonus, .....	Lithuanian, .....	Laborer, .....	29	S.	Indian Ridge, .....		Back broken. Struck by falling timber.
22	Albert Knock, .....	American, .....	Carpenter, .....	33	M.	Gilberton, .....		Leg fractured. While working on a conveyor line a piece of rock fell over the side and struck him. Outside.
22	Con. Pribula, .....	Lithuanian, .....	Miner, .....	23	S.	West Shenandoah, ....		Leg fractured by fall of coal.
27	Clarence Zerby, .....	American, .....	Miner, .....	25	S.	Lawrence, .....		Burned by gas. He went into gas with naked light.
28	Dominick Kentuskie, ..	Polish, .....	Miner, .....	34	M.	Lawrence, .....		Burned by gas. He went into gas with naked light.
Nov. 6	Peter Yecan, .....	Polish, .....	Miner, .....	51	M.	Indian Ridge, .....		Leg fractured by fall of slate.



Nov.	6	Peter McCabe, .....	American, ..	Miner, .....	36	M.	Stanton, .....	.....	Ankle crushed. Caught by rush of coal down chute.
	15	James Ryan, .....	Irish, .....	Miner, .....	34	S.	Stanton, .....	.....	Foot broken. While men were unloading rails he stepped in the road and was struck by falling rail.
Dec.	17	Stney Suduskie, ....	Polish, .....	Laborer, .....	35	M.	Weston, .....	.....	Leg fractured by fall of coal.
	7	Alex Mesonus, .....	Lithuanian, ..	Miner, .....	29	S.	Shenandoah City, .....	.....	Burned by gas which he ignited by lighting a cigarette.
	13	Joseph Dumbroskie, ..	Polish, .....	Miner, .....	28	S.	Shenandoah City, .....	.....	Burned by gas. He went into gas without safety lamp.
	17	John Matzunas, .....	Lithuanian, ..	Driver, .....	17	S.	Draper, .....	.....	Foot amputated. While spragging car his foot slipped on rail and was crushed by car.

## CONDITION OF COLLIERIES

## PHILADELPHIA AND READING COAL AND IRON COMPANY

Indian Ridge, Shenandoah City, West Shenandoah, Kohinoor, Turkey Run, Gilberton, Draper, Knickerbocker and Boston Run Collieries.—Ventilation, drainage and condition as to safety, good.

## THOMAS COLLIERY COMPANY

Kehley Run Colliery.—Ventilation and condition as to safety, good. Drainage, fair.

## LOCUST MOUNTAIN COAL COMPANY

Weston Colliery.—Ventilation and condition as to safety, good. Drainage, fair.

## HARLEIGH BROOKWOOD COAL COMPANY

Stanton and Lawrence Collieries.—Ventilation and condition as to safety, good. Drainage, fair.

## SUSQUEHANNA COAL COMPANY

William Penn Colliery.—Ventilation, drainage and condition as to safety, good.

## IMPROVEMENTS

## PHILADELPHIA AND READING COAL AND IRON COMPANY

Indian Ridge Colliery.—Change in team road in vicinity of No. 7 Primrose slope, 22 feet wide and 2200 feet long. During the year 50,422 cubic yards of slush were run into this mine, or 1,433,318 cubic yards to date.

Shenandoah City Colliery.—Tunnel was driven from Buck Mountain to Seven Foot vein on Shaft Level; length 224 feet.

Car pusher was installed at bottom of shaft.

Safety walk was made for men north of shaft to prevent them from walking along track from shaft to breaker.

During the year 20,782 cubic yards of slush were run into this mine, or 70,366 cubic yards to date.

West Shenandoah Colliery.—Air tunnel was driven from Skidmore to Seven Foot on fifth lift; length 232 feet.

Rock hole was driven from Seven Foot to Skidmore on sixth lift; length 42 feet.

No. 2 Strippings, Buck Mountain vein. Finished mining coal.

Pump room in rock in the sixth lift Buck Mountain gangway was completed and electric pump was installed therein.

Slush elevator erected south of breaker to give additional height for slush bank. During the year 20,082 cubic yards of slush were run into this mine, or 712,416 cubic yards to date.

Kohinoor Colliery.—During the year 60,872 cubic yards of slush were run into this mine, or 1,119,160 cubic yards to date.

Gilberton Colliery.—Tunnel to Buck Mountain vein from the West Seven Foot gangway off the new underground slope in Seven Foot vein 1060 foot level, was completed in March; length 39 yards.

Single and double track tunnel from foot of underground slope from Seven Foot vein, north dip, to Seven Foot vein, south dip, was completed in September; length 40 yards.

Tunnel to Skidmore vein from the West Buck Mountain gangway was completed in July; length 63 1-3 yards. Tunnel to Little Buck vein from East Skidmore gangway (932 foot level) off No. 1 slope at a point 160 feet east of No. 1 slope, was completed in May; length 64 2-3 yards.

Draper Colliery.—Tunnel from Leader gangway to Skidmore vein second lift, was completed in March; length 26 yards.

Three rail rock plane from second lift tunnel to Little Tracey vein, was completed in July; length 26 yards.

Knickerbocker Colliery.—Tunnel to Buck Mountain vein, south dip tunnel from Buck Mountain underground slope, West Seven Foot gangway, north dip, near Breast No. 20, was completed; total length 70 2-3 yards.

Boston Run Colliery.—A rock hole for air on 15 degree pitch to stump heading in Buck Mountain vein, from East Little Buck fourth lift, 115 feet east of pumproom, was completed; total length 15½ yards.

A tunnel on shaft level to tender slope in Little Buck vein, for timberway and men, was completed; total length 64 1-3 yards.

A rock hole on 45 degree pitch to Little Tracey vein from West Tracey gangway second lift at Breast No. 2, was completed; total length 21 1-3 yards.

#### THOMAS COLLIERY COMPANY

Kehley Run Colliery.—New supply plane hoisting engine was installed and engine house erected. New conveyor line to take in culm bank on west side of breaker was partially installed.

Black Creek Washery.—This is a new operation. During the year a new breaker with a capacity of 1000 tons daily was erected, and in it were installed 12 new jigs, together with shakers and other necessary machinery. Boiler house was erected containing five 150 horse power locomotive type boilers. Installed 5 locomotives—three 20-ton, one 18-ton and one 12-ton.

Installed 3 steam shovels—two 45-ton and one 70-ton.

Installed one breaker wash pump, capacity 1000 gallons per minute.

#### LOCUST MOUNTAIN COAL COMPANY

Weston Colliery.—Inside: Installed two 8-ton electric locomotives, armor plate type, General Electric Company's construction, 36-inch gauge. The plane to the counter level of the Little Buck Mountain vein for the purpose of handling the coal from the counter, has been

completed; also the tunnel from the Little Buck Mountain vein to the Buck Mountain vein off East Little Buck Mountain counter gangway, opening up two gangways at the spoon of the basin in the Buck Mountain.

The 100-foot tunnel from No. 1 West Little Buck Mountain gangway to the Buck Mountain vein is still being driven.

Outside: A boiler house has been erected at the mouth of the tunnel for the purpose of heating adjacent buildings. A thaw-house, built of lumber and stuccoed on outside, with a capacity of 50 mine cars, has been erected for the purpose of keeping cars from freezing during the severe weather. This building is 300 feet long and 20 feet wide, and it is practically fireproof. An additional mine fan has been installed to ventilate the East Little Buck Mountain counter gangway. It is the Disc type, 7½-15 H. P. motor, capacity 40,000 to 60,000 cubic feet of air per minute, one-inch water gauge.

An office has been added alongside of the loaded car scale for the use of the coal inspector.

Stripping: An electric drag line excavator, Bucyrus 175-B type, weight 255 tons, 3½ cubic yards dipper, length of boom 125 feet, was added to the strippings for the purpose of stripping the Mammoth basin and Buck Mountain crops.

An additional steam locomotive was added for the purpose of handling clay and coal. A new 150 H. P. motor has been installed in the engine house at the head of the letting-down plane from the stripping, to replace a 50 H. P. motor and double the capacity of the plane, bringing it up to 48 cars per hour.

#### HARLEIGH BROOKWOOD COAL COMPANY

Stanton and Lawrence Collieries.—Installed two 7-ton General Electric locomotives.

A wing tunnel was driven from the main tunnel across the basin to the East Seven Foot gangway, third lift, 640 foot elevation north dip, which is being used in connection with electric haulage. An air tunnel 8 feet by 12 feet and 445 feet long has been driven from the Buck Mountain bed, north dip, to the Four Foot bed, north dip.

Completed tunnel 200 feet long from the Four Foot bed, south dip, to the Mammoth bed, south dip, 640 foot elevation.

Completed tunnel across the basin from Four Foot bed, south dip, to Seven Foot bed, north dip, a distance of 720 feet on the 640 foot elevation. A traveling way on the Skidmore vein was completed from the 920 foot level to the 1000 foot counter level.

A new 14 inch and 26 by 14 by 36 inch Goyne wash water-pump, enclosed in frame house, was installed for the wash water for Lawrence breaker.

A new 20-foot steel fan, reversible type, has been installed just east of the Seven Foot slope. A new air compressor, 1100 cubic foot capacity, has been installed close to the fan for rock-drilling machine. Two new Sterling boilers, 350 H. P. each, are being installed, making a total of eight.

#### SUSQUEHANNA COAL COMPANY

William Penn Colliery.—Installed new shaking screens in breaker. Breaker coal plane remodeled. Built new lamp house, emergency hospital and office for inside foreman. Empty car hoist remodeled.

Numerous concrete retaining walls erected. The following tunnels were driven: One from East Primrose to Holmes, No. 1 level; one from West Skidmore to Mammoth, No. 1 level; and one from Skidmore to Mammoth, No. 4 level.

### MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in Eagan's Hall, Shenandoah, May 18 and 19. The Board of Examiners was composed of A. B. Lamb, Mine Inspector; E. A. Van Horn, Superintendent, Shaft; George H. Young, Miner, Shenandoah; George Keller, Miner, Ashland.

The following persons passed a satisfactory examination and were granted certificates:

#### ASSISTANT MINE FOREMEN

John Buscavage, John Rowan, Shenandoah; Clayton Burchill, Frackville; Stanley Jenkins, Shaft, P. O.; William H. Thomas, Gilberton; David J. Price, Ashland.





## FOURTEENTH DISTRICT

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COLUMBIA, SCHUYLKILL AND NORTHUMBERLAND COUNTIES

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Centralia, Pa., February 19, 1916.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor of transmitting herewith my report as Inspector of Mines, for the Fourteenth Anthracite District for the year ending December 31, 1915.

Respectfully submitted,

JAMES A. O'DONNELL,  
Inspector.

## SUMMARY OF STATISTICS

Number of collieries, .....	15
Number of mines, .....	39
Number of mines in operation, .....	39
Number of tons of coal shipped to market, .....	2,325,388
Number of tons used at mines for steam and heat, .....	565,126
Number of tons sold to local trade and used by employes, .....	56,197
Number of tons produced, .....	2,946,711
Number of tons produced by compressed air machines, ..	.....
Number of tons produced by electrical machines, ....	.....
Number of persons employed inside of mines, .....	4,403
Number of persons employed outside, .....	2,448
Number of fatal accidents inside of mines, .....	10
Number of fatal accidents outside, .....	6
Number of non-fatal accidents inside of mines, .....	46
Number of non-fatal accidents outside, .....	13
Number of tons of coal produced per fatal accident in- side, .....	294,671
Number of tons produced per fatal accident outside, ..	491,118
Number of tons produced per fatal accident inside and outside, .....	184,169
Number of persons employed per fatal accident inside, ..	440
Number of persons employed per fatal accident outside, ..	408
Number of persons employed per fatal accident inside and outside, .....	428
Number of persons employed per non-fatal accident in- side, .....	96
Number of persons employed per non-fatal accident out- side, .....	188
Number of persons employed per non-fatal accident in- side and outside, .....	116
Number of wives made widows, .....	9
Number of children made orphans, .....	28
Number of steam locomotives used inside of mines, ....	.....
Number of steam locomotives used outside, .....	47
Number of compressed air locomotives used inside, ....	6
Number of compressed air locomotives used outside, ...	.....
Number of electric motors used inside, .....	34
Number of electric motors used outside, .....	1
Number of gasoline locomotives used inside, .....	4
Number of fans in use, .....	29
Number of furnaces in use, .....	.....
Number of gaseous mines in operation, .....	28
Number of non-gaseous mines in operation, .....	11
Number of new mines opened, .....	.....
Number of old mines abandoned, .....	.....

## TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
Lehigh Valley Coal Company, .....	1,604,262
Philadelphia and Reading Coal and Iron Company, ....	740,658
Midvalley Coal Company, .....	296,902
Girard Mammoth Coal Company, .....	194,702
East Bear Ridge Coal Company, .....	46,429
Beaver Valley Coal Company, .....	35,113
Harleigh Brookwood Coal Company, .....	17,073
W. R. McTurk Coal Company, .....	11,572
Total, .....	<u>2,946,711</u>

## Production by Counties

Schuylkill, .....	1,497,998
Columbia, .....	1,073,630
Northumberland, .....	375,083
Total, .....	<u>2,946,711</u>

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Number of employees inside per fatal accident		Number of employees outside per fatal accident		Number of employees inside per non-fatal accident		Number of employees outside per non-fatal accident	
	Inside	Outside	Total	Inside	Outside	Total								
Lehigh Valley Coal Co., .....	5	4	9	34	9	43	320,852	47,184	2,300	969	460	242	108	68
Philadelphia and Reading Coal and Iron Co., .....	3	1	4	5	1	6	246,886	148,131	1,192	664	397	238	664	238
Midvalley Coal Co., .....	1	1	2	3	1	4	296,992	98,967	335	179	335	111	179	111
Girard Mammoth Coal Co., .....	1	1	2	2	1	3	23,214	23,214	277	110	387	280	290	290
East Bear Ridge Coal Co., .....	1	1	2	2	1	3	17,073	17,073	66	37	66	138	110	138
Hartleigh Brookwood Coal Co., .....	1	1	2	2	1	3	5,786	5,786	90	134	224	45	45	45
M. J. R. McTurk Coal Co., .....	1	1	2	2	1	3	110	110	65	65	110	90	90	90
Miscellaneous Companies, .....	1	1	2	2	1	3	64,059	64,059	4,403	2,448	440	90	188	90
Totals and averages, .....	10	6	16	46	13	59	294,671	294,671	4,403	2,448	440	90	188	90

Names of Operators

TABLE C.—Causes of Fatal Accidents Inside and Outside of Mines

	Months												Percentages	
	Totals	January	February	March	April	May	June	July	August	September	October	November		December
Inside														
Falls of coal, .....	1									1				10.00
Mine cars, .....	1	1												10.00
Explosions of gas, .....	2						2							20.00
Suffocation by gas, etc., .....	2											2		20.00
Blasts, premature and otherwise, .....	1						1			1				10.00
Falling down chute, ..	1							1						10.00
Rush of coal, .....	2					1			1					20.00
Totals, .....	10	1				1	3	1		2		2		100.00
Outside														
Cars, .....	1	1												16.66
Machinery, .....	2					1	1							33.34
Falling, .....	1				1									16.67
Rush of earth, .....	1							1						16.67
Burned by clothing catching fire, .....	1												1	16.66
Totals, .....	6	1			1	1	1	1					1	100.00
Grand totals inside and outside, .....	16	1	1		1	2	4	2		2		2	1	

TABLE D.—Causes of Non-Fatal Accidents Inside and Outside of Mines

	Months												Totals	Percentages
	January	February	March	April	May	June	July	August	September	October	November	December		
Inside														
Falls of coal, .....		1		1	2			2	2	1	1		10	21.74
Falls of slate, .....									1				1	2.17
Falls of roof, .....			3			1							2	4.35
Mine cars, .....		6							1				6	13.05
Explosions of gas, .....	2			12	12	3	1	1		1			12	25.00
Blasts, premature and otherwise, .....				1		1			1				3	6.52
Falling into slopes, etc., .....										1			1	2.17
Crushed at batteries, .....			1										1	2.17
Machinery, .....											1		1	2.17
Struck by piece of iron, .....	1												1	2.17
Struck by block, .....		1											1	2.17
Struck by steam, .....			1										1	2.17
Falling, .....				1				1					2	4.35
Struck by piece of rock, .....				1									1	2.18
Bursting of steam pipe, .....								1					1	2.18
Rush of coal, .....												1	1	2.18
Struck by timber, .....												1	1	2.17
Totals, .....	3	2	3	7	6	5	1	5	5	5	2	2	46	100.00
Outside														
Cars, .....				1					1				2	15.39
Machinery, .....				1									1	7.70
Falling, .....					2		1				1		4	20.77
Struck by chain, .....						1							1	7.69
Struck by steam, .....						1							1	7.69
Struck by debris, .....								1					1	7.69
Struck by rail, .....										1			1	7.69
Struck by rock, .....											1		1	7.69
Struck by rope, .....												1	1	7.69
Totals, .....				2	2	2	1	1	1	1	2	1	13	100.00
Grand totals inside and outside, .....	3	2	3	9	8	7	2	6	6	6	4	3	59	.....

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
Inside													
Miners, .....	..	..	..	..	1	..	..	..	1	..	1	..	3
Miners' laborers, .....	..	..	..	..	..	3	..	..	..	..	..	..	4
Drivers and runners, .....	..	1	..	..	..	..	1	..	..	..	..	..	2
Machine runners, .....	..	..	..	..	..	..	..	..	1	..	..	..	1
Totals, .....	..	1	..	..	1	3	1	..	2	..	2	..	10
Outside													
Blacksmiths and carpenters,...	1	..	..	..	..	..	..	..	..	..	..	..	1
Statepickers (boys), .....	..	..	..	1	..	..	..	..	..	..	..	..	1
Laborers, .....	..	..	..	..	1	..	..	..	..	..	..	..	1
Oilers, .....	..	..	..	..	..	1	..	..	..	..	..	..	1
Drillers, .....	..	..	..	..	..	..	1	..	..	..	..	..	1
Watchmen, .....	..	..	..	..	..	..	..	..	..	..	1	..	1
Totals, .....	1	..	..	1	1	1	1	..	..	..	1	..	6
Grand totals inside and out- side, .....	1	1	..	1	2	4	2	..	2	..	2	1	16

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
Inside													
Miners, .....		1	1	4	1	4	1	4	1	4	1	....	22
Miners' laborers, .....					1				1			....	9
Drivers and runners, .....									1			....	1
Pumpmen, .....			1					1				....	2
Timbermen, .....		1										....	1
Starters, .....			1									1	2
Machine runners, .....				1					1			....	2
Loaders, .....					1				1	1		1	4
Rockmen, .....						1						1	1
Blacksmiths, .....											1		1
Motormen, .....					1								1
Totals, .....	3	2	3	7	6	5	1	5	5	5	2	2	46
Outside													
Foremen, .....				1									1
Engineers and firemen, .....				1	1	1							3
Laborers, .....					1	1	1		1	1		1	6
Loaders, .....								1					1
Footmen, .....											1		1
Platemen, .....											1		1
Totals, .....				2	2	2	1	1	1	1	2	1	13
Grand totals inside and outside, .....	3	2	3	9	8	7	2	6	6	6	4	3	59



TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
American, .....	1	1	....	....	2	2	1	....	1	....	....	....	8
Irish, .....	....	....	....	....	....	....	....	....	....	....	....	1	1
Italian, .....	....	....	....	1	....	1	....	....	....	....	....	....	2
Slavonian, .....	....	....	....	....	....	....	....	....	1	....	....	....	1
Lithuanian, .....	....	....	....	....	....	....	....	....	....	....	1	....	1
Austrian, .....	....	....	....	....	....	....	1	....	....	....	1	....	2
Russian, .....	....	....	....	....	....	1	....	....	....	....	....	....	1
Totals, .....	1	1	....	1	2	4	2	....	2	....	2	1	16

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
American, .....	1	2	1	3	2	3	1	4	1	1	3	2	25
English, .....	....	....	....	....	1	....	....	....	....	....	....	....	1
Welsh, .....	....	....	....	1	....	....	....	....	....	....	....	....	1
Irish, .....	....	....	....	....	2	....	....	....	....	1	....	....	3
Polish, .....	....	1	1	1	1	1	1	....	1	....	....	....	5
Hungarian, .....	....	....	....	....	....	1	....	....	....	....	....	....	1
Italian, .....	....	....	....	1	....	....	....	1	....	....	1	....	3
Slavonian, .....	....	....	....	....	....	....	....	1	1	....	....	....	2
Lithuanian, .....	....	....	....	1	....	1	....	1	1	1	....	....	5
Austrian, .....	....	....	2	1	1	....	....	....	....	....	....	....	2
Russian, .....	2	....	1	1	....	....	....	....	1	1	....	....	3
Greek, .....	....	....	....	....	....	....	....	....	1	2	....	....	3
Tyrolean, .....	....	....	....	....	....	1	....	....	....	....	....	....	1
Totals, .....	2	2	3	9	8	7	2	6	6	6	4	3	59





TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Lehigh Valley Coal Co. Centralia, .....	Columbia, .....	Thomas Thomas, ..	Wilkes-Barre, .....	H. J. Heffner, .....	Centralia, .....	Lehigh Valley
Sayre, .....	Northumberland, ..					
Packer Nos. 2, 3, 4, 5, ...	Schuylkill, .....					
Philadelphia and Reading Coal and Iron Co. Hammond, .....	Schuylkill, .....	G. B. Hadesky, ...	Pottsville, .....	Morgan Bevan, .....	Asland, .....	P. and R.
East, .....	Schuylkill, .....					
Portis, .....	Columbia, .....					
Midvalley Coal Co. Midvalley, .....	Columbia, .....	T. E. Snyder, .....	Hazleton, .....	H. D. Kostenbauder, ..	Wilburton, .....	Lehigh Valley
Girard Mammoth Coal Co. Girard Mammoth, .....	Schuylkill, .....	Timothy Cockill, ...	Mahanoy City, .....	William Palmer, ....	Mahanoy City, .....	P. and R.
East Bear Ridge Coal Co. East Bear Ridge, .....	Schuylkill, .....	G. T. Davis, .....	Scranton, .....	James H. Pierce, ....	Frackville, .....	P. and R.
Beaver Valley Coal Co. Scotch Valley, .....	Columbia, .....			George D. Evans, ....	Mainville, .....	Pennsylvania
Harleigh Brookwood Coal Co. West Bear Ridge, .....	Schuylkill, .....	W. G. Thomas, .....	Pottsville, .....	John Price, .....	Shenandoah, .....	P. and R.
W. R. McTurk Coal Co. Girard Bear Ridge, .....	Schuylkill, .....	Morton H. McTurk, ...	Girardville, .....			P. and R.

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employees	Total production of coal in tons	Number of days worked	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Lehigh Valley Coal Co.													
Centralia, .....	Columbia, .....	436,373	71,820	6,125	514,326	922	833	1	14	.....	230,759	.....	75
Sayre, .....	Northumberland, .....	191,698	78,148	5,237	375,083	225	712	1	16	.....	212,746	.....	36
Packer No. 2, .....	Schuylkill, .....	127,681	23,594	.....	153,275	.....	269	.....	.....	.....	65,905	.....	11
Packer No. 3, .....	Schuylkill, .....	90,593	.....	.....	90,671	.....	220	.....	.....	.....	28,102	.....	22
Packer No. 4, .....	Schuylkill, .....	90,148	95,010	1,050	186,208	223	498	.....	.....	.....	66,858	.....	14
Packer No. 5, .....	Schuylkill, .....	230,517	54,182	.....	284,699	178	737	.....	7	.....	141,252	.....	23
Totals, .....	.....	1,267,015	324,832	12,415	1,604,262	.....	3,269	9	43	.....	735,622	.....	181
Philadelphia and Reading Coal and Iron Co.													
Hammond, .....	Schuylkill, .....	211,476	60,709	19,282	291,477	216	730	.....	3	.....	90,351	58,515	29
Pott, .....	Schuylkill, .....	135,912	55,331	6,649	221,892	223	588	.....	.....	.....	101,560	19,960	74
Potts, .....	Columbia, .....	130,185	40,195	6,909	227,289	224	588	.....	.....	.....	55,493	48,807	70
Totals, .....	.....	547,573	156,235	36,850	740,658	.....	1,856	4	6	.....	247,404	127,272	173
Midvalley Coal Co.													
Midvalley, .....	Columbia, .....	255,566	38,189	3,147	286,902	237	514	1	4	.....	155,175	.....	50
Girard Mammoth Coal Co.													
Girard Mammoth, .....	Schuylkill, .....	162,980	30,365	1,337	194,702	271	388	1	1	.....	37,218	.....	20
East Bear Ridge Coal Co.													
East Bear Ridge, .....	Schuylkill, .....	40,561	4,153	1,715	46,429	81	387	.....	3	.....	13,860	23,110	12





TABLE 2.—Part 2  
Number and kinds of boilers and locomotives in use, number of steam engines, pumps, electric dynamos and air compressors in use, etc.

Names of Operators	County	Number of Boilers				Locomotives				Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Gasoline	Steam	Air	Electric						
Lehigh Valley Coal Co., ..	Columbia,	15	555	53	11,700	12,255	1	14	30	16,524	15	24,461	16,609	5	2
Philadelphia and Reading Coal and Iron Co., ..	Schuylkill,			52	6,500	6,500	...	8	...	16,284	9	17,464	7,024	1	15
Mine Valley Coal Co., ..	Schuylkill,						3	...	...	923	8	10,256	2,300	...	1
Girard Mammoth Coal Co., ..	Columbia,			16	3,150	3,150	...	...	...	900	...	6,000	6,000	...	...
East Bear Ridge Coal Co., ..	Schuylkill,			8	1,600	1,600	...	13	...	150	...	2,200	1,000	1	...
Beaver Valley Coal Co., ..	Schuylkill,			4	440	1,300	...	...	...	120	...	...	...	...	...
Harleigh Brookwood Coal Co., ..	Columbia,			1	100	100	...	...	...	100	...	...	...	...	...
W. R. McTurk Coal Co., ..	Schuylkill,			6	2,250	2,250	...	...	...	1,800	...	...	180	...	...
Totals, .....		15	555	148	27,080	27,035	4	47	35	36,801	45	67,161	34,923	8	11

TABLE 3.—Number of each class of employees inside and outside of mines

Names of Operators	County	Inside										Outside										Grand total
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employees	Total outside	
Lehigh Valley Coal Co.	Columbia.	15	57	....	762	634	88	36	25	....	683	2,300	1	12	114	134	53	26	12	616	969	3,269
Philadelphia and Reading Coal and Iron Co.	Schuylkill.	5	32	....	280	193	50	34	13	189	396	1,192	....	8	28	94	81	38	14	401	664	1,856
Midvalley Coal Co.	Columbia.	3	6	....	132	118	16	2	6	51	....	335	1	1	8	22	18	5	3	121	179	514
Girard Mammoth Coal Co.	Columbia.	1	....	1	20	36	12	....	4	24	....	98	1	1	11	40	38	2	2	195	290	388
East Bear Ridge Coal Co.	Schuylkill.	1	....	6	119	101	3	1	2	33	11	277	....	2	8	11	21	....	3	65	110	387
Beaver Valley Coal Co.	Columbia.	1	....	....	12	18	7	....	....	7	....	45	....	1	3	5	....	3	1	46	65	110
Hartleigh Brookwood Coal Co.	Schuylkill.	1	1	....	17	15	6	....	2	16	8	66	....	....	....	9	....	....	....	28	37	103
W. R. McTurk Coal Co.	Schuylkill.	1	1	....	35	31	3	3	6	10	....	90	1	1	12	24	11	4	2	79	134	224
Totals.	.....	28	97	7	1,378	1,146	185	76	58	330	1,098	4,403	5	26	184	339	227	78	38	1,551	2,448	6,851

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked Monthly												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Lehigh Valley Coal Co., Philadelphia and Reading Coal and Iron Co., Midvalley Coal Co., Grand Mammoth Coal Co., East Bear Ridge Coal Co., Columbia Valley Coal Co., Harleigh Brookwood Coal Co., W. R. McCluck Coal Co.,	Columbia	13	14	12	22	20	17	18	16	19	20	22	19	212
	Northampton	16	16	20	22	19	16	14	16	16	22	22	22	221
	Schuylkill	17	15	16	22	19	19	19	22	25	23	20	20	237
	Columbia	23	22	24	25	24	22	16	22	23	25	22	23	271
	Schuylkill	22	21	23	13	21	18	18	19	21	19	16	18	251
	Columbia	24	23	23	26	25	25	25	22	19	15	24	24	249
	Schuylkill	24	23	23	26	25	25	23	22	19	15	24	24	249
	Schuylkill	24	23	23	26	25	25	23	22	19	15	24	24	249
	Schuylkill	24	23	23	26	25	25	23	22	19	15	24	24	249
	Schuylkill	24	23	23	26	25	25	23	22	19	15	24	24	249

TABLE 4.—Fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 28	Patrick McMenamen, ..	American, ..	Carpenter, ....	38	M.	1	5	Packer No. 4	Schuylkill, .....	Killed by having head crushed between empty cars at foot of chain hoist while assisting to retrack a derailed car. Outside.
Feb. 6	Joseph Rowan, .....	American, ..	Driver, .....	21	S.	....	....	Centralia, ....	Columbia, .....	Killed by being crushed between top of car and timber over a rock dump. He was on top of car throwing rock from back of car to front end when the car dumped. Killed by falling through a hole in floor of breaker, a distance of 60 feet. The car-penters were making repairs to that part of the breaker and had placed a fence around the hole and he went inside of the fence. Outside.
April 7	Anthony Waretto, ...	Italian, .....	Slatepicker, ..	18	S.	....	....	Packer No. 4.	Schuylkill, .....	Head crushed. He was found dead in the fan house with his head in the crank pit. In some manner he fell against crank during the night. Outside.
May 2	Christ Pitts, .....	American, ..	Laborer, .....	76	M.	....	....	East, .....	Schuylkill, .....	Killed by rush of coal while robbing pillars. He was caught against the man-way 95 feet above the gangway.
25	Jerry Yeager, .....	American, ..	Miner, .....	36	M.	1	4	Sayre, .....	Northumberland	Killed by being caught between shaker hangers on breaker. He was helping to repair machinery affecting drive. The sign on the engine set the machinery and in some unknown manner his head was caught between the shaker boards. Outside.
June 17	Harry Ross, .....	Italian, .....	Oiler, .....	23	S.	....	....	Packer No. 4.	Schuylkill, .....	[Killed by explosion of gas at face of the second level Mammoth gangway on the night shift. The miner and these two laborers drilled a hole in the coal with a compressed air drill. When they pulled the drill from the hole the air hose became detached and caused the explosion. They were working on the second level. Singmaster was killed and Risseger was fatally burned and died July 1 at hospital.
21	{ William Singmaster, { Edward Risseger, ..	American, .. American, ..	Laborer, .....	32	S.	....	....	Potts, .....	Columbia, .....	
			Laborer, .....	49	M.	1	2			

June	22	Harry Kerschew, .....	Russian, ...	Laborer, .....	27	M.	.....	West Rear Ridge	Schuylkill, ....	Fatally injured by falling down chute into gangway. He worked in the airway and in walking out he stepped into the chute. Died August 6 at hospital.
July	10	Michael Hinebuck, ...	Austrian, ..	Driller, .....	21	M.	1	Centralla, ....	Columbia, .....	Killed by being hurled in the face of an old breast. He had killed the hole with a steam drill and had fired several charges to spring it and had commenced to ground it for the final blast, when the ground under him gave way. Outside, Suffocated by rush of coal in chute. The coal was blocked in the breast chute and he went up the manway to start it for the loader and was caught in the rush. Killed by fall of coal at face of breast.
Sept.	13	John Burns, .....	American, ..	Miner, .....	54	M.	1	East, .....	Schuylkill, .....	After firing a blast he returned to attach the safety wires for another blast, and while in the breast a second blast came across the breast to his partner, he was caught by fall of coal.
	18	John Haynick, .....	Slavonian, ...	Machine runner	40	M.	1	Sayre, .....	Northumberland	Killed by explosion of blast. He drilled into an unexploded blast in face of tunnel left from a former round of blasts.
Nov.	27	{ Frank Washnefskie, .. } Frank Ritsco, .....	Lithuanian, .. Austrian, ...	Miner, .....	57 42	M. M.	1 1	{ Packer No. 5, .. } 2	Schuylkill, .....	Suffocated by wood smoke following an explosion of gas. He and his laborer were skipping a pillar 160 feet above the gangway. One of the assistant foremen was sent to open an air stopping in a hole that was driven in a face of the second level to the gangway, opposite where these men were at work. A blast was fired on a trough over the top of the hole with the stopping in, which caused an explosion of gas that ignited the gangway and chute timber and Washnefskie and Ritsco were suffocated.
Dec.	21	Matthew Hartigan, ...	Irish, .....	Watchman, ...	56	M.	.....	Girard Mammoth.	Schuylkill, .....	Fatally burned. He was found dead in a stripping 10 feet from steam shovel, his clothing burned off the body and his body burned to a crisp. His lantern was burning and the shovel and a hole was broken in the shovel. It was found that now his clothing became ignited. Outside.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 5	Bolch Robfoski, .....	Russian, ..	Laborer, .....	25	M.	Sayre, .....	Northumberland	Hands and face burned by explosion of gas.
9	Joseph Wanzick, .....	Russian, ..	Laborer, .....	30	M.	Sayre, .....	Northumberland	Hands and face burned by explosion of gas.
18	Robert Welsh, .....	American, ..	Laborer, .....	34	S.	Packer No. 4, .....	Schuylkill, .....	Top of finger cut off while handling a pump casting.
Feb. 16	Edward Durkin, .....	American, ..	Miner, .....	46	M.	Centralia, .....	Columbia, .....	Body bruised by fall of coal at face of breast.
19	Patrick McGuire, .....	American, ..	Timberman, .....	40	M.	Packer No. 3, .....	Schuylkill, .....	Arm fractured by hoisting blocks falling on him.
March 24	Patrick O'Reilly, .....	American, ..	Pumpman, .....	26	S.	Packer No. 3, .....	Schuylkill, .....	Face and hands scalded by steam from pump.
25	Michael Bradski, .....	Russian, ..	Starter, .....	40	M.	Centralia, .....	Columbia, .....	Leg fractured by rush of coal at battery.
31	Joseph Molonowski, .....	Russian, ..	Miner, .....	45	M.	Centralia, .....	Columbia, .....	Foot fractured by fall of rock at face of breast.
April 7	Metro Connelski, .....	Russian, ..	Laborer, .....	21	S.	Centralia, .....	Columbia, .....	Face lacerated by flying coal from blast.
15	John Laumet, .....	American, ..	Foreman, .....	65	M.	Centralia, .....	Columbia, .....	Hips bruised by cars. Outside.
19	Sylvester Lally, .....	American, ..	Engineer, .....	23	S.	Girard Mammoth, .....	Schuylkill, .....	Finger cut off while repairing machinery. Outside.
24	Frank Gallagher, .....	American, ..	Miner, .....	54	M.	Packer No. 5, .....	Schuylkill, .....	Face burned by explosion of gas.
27	Camel Zippo, .....	Italian, ..	Machine runner, ..	22	S.	Potts, .....	Columbia, .....	Compound fracture of arm by cars.
27	John Butscavage, .....	Lithuanian, ..	Laborer, .....	22	S.	Sayre, .....	Northumberland	Leg fractured by falling from top of car.
27	Evan Thomas, .....	Welsh, .....	Miner, .....	50	M.	Sayre, .....	Northumberland	Leg fractured by rock rolling on him.
28	Charles Kitchen, .....	Polish, .....	Miner, .....	52	M.	Midvalley, .....	Columbia, .....	Face and hands burned by explosion of gas.
29	Martin Marbo, .....	Austrian, ..	Miner, .....	33	M.	Centralia, .....	Columbia, .....	Two ribs fractured by fall of coal at face.
May 6	John Lockwood, .....	American, ..	Laborer, .....	23	M.	Packer No. 2, .....	Schuylkill, .....	Collar bone fractured by cars.
6	John Mealey, .....	Irish, .....	Fireman, .....	62	M.	Packer No. 5, .....	Schuylkill, .....	Head and leg lacerated by falling from top of boiler. Outside.
12	Richard Wills, .....	English, ..	Laborer, .....	55	M.	Centralia, .....	Columbia, .....	Two ribs fractured by falling in lumber shed. Outside.
14	Joseph Mish, .....	Polish, .....	Loader, .....	33	M.	Sayre, .....	Northumberland	Leg fractured by fall of coal on gangway.
15	James Rowland, .....	Russian, ..	Laborer, .....	24	M.	Sayre, .....	Northumberland	Face and hands burned by explosion of gas.
19	Steve Denal, .....	Austrian, ..	Laborer, .....	43	M.	Sayre, .....	Northumberland	Face and hands burned by explosion of gas.
19	Ray Sherman, .....	American, ..	Motorman, .....	23	S.	Sayre, .....	Northumberland	Arm fractured by cars.
27	Thomas Mooney, .....	Irish, .....	Miner, .....	54	M.	Centralia, .....	Columbia, .....	Toes fractured by fall of coal at face of breast.



June	2	Michael Levenskie, ...	American, ..	Laborer, ..	16	S.	Midvalley, ..	Columbia, .....	Finger cut off by brake-chain on railroad car. Outside.
	4	Alex Vandaloskie, ...	Polish, .....	Miner, .....	22	S.	Midvalley, ..	Columbia, .....	Face and hands burned by explosion of gas.
	7	David Mitchakenus, ..	Hungarian, ..	Miner, .....	45	M.	Packer No. 5, ..	Schuykill, .....	Head lacerated and back bruised by fall of rock at face of breast.
	9	Pio Difelbo, .....	Tyrolean, ..	Rockman, ..	22	S.	East Bear Ridge, ..	Schuykill, .....	Leg lacerated by blast in tunnel.
	21	Charles Storerbach, ...	American, ..	Miner, .....	43	M.	Forts, .....	Columbia, .....	Face and hands burned by explosion of gas.
		William Gerrity, .....	American, ..	Firman, .....	31	M.	Sayre, .....	Northumberland	Face and head scalded by steam on steam shovel. Outside.
July	24	Anthony Goralcheck, ..	Lithuanian, ..	Miner, .....	30	M.	Packer No. 5, ..	Schuykill, .....	Face and hands burned by explosion of gas.
	8	Dan Collins, .....	American, ..	Laborer, .....	22	S.	East Bear Ridge, ..	Schuykill, .....	Shin fractured by falling off a mule. Outside.
Aug.	10	John Wisniewski, .....	Polish, .....	Miner, .....	23	S.	Midvalley, ..	Columbia, .....	Face and hands burned by explosion of gas.
	3	Elmer Johnson, .....	American, ..	Loader, .....	65	M.	Packer No. 4, ..	Schuykill, .....	Head and body bruised. Struck by falling material in breaker.
	9	Thomas G. Evans, .....	American, ..	Pumpman, ..	25	M.	Girard Bear Ridge, ..	Schuykill, .....	Arm fractured by steam pipe that burst in pump house.
	11	Albert Vedunis, .....	Lithuanian, ..	Miner, .....	35	M.	Packer No. 5, ..	Schuykill, .....	Face burned by explosion of gas.
	13	Solomon Polina, .....	Italian, .....	Miner, .....	31	S.	Centralia, .....	Columbia, .....	Clavicle fractured by falling on gangway.
	26	Peter Corrigan, .....	American, ..	Miner, .....	36	M.	Centralia, .....	Columbia, .....	Back severely bruised by fall of coal at face of breast.
	27	Jerry Kuttie, .....	American, ..	Miner, .....	56	M.	Sayre, .....	Northumberland	Toe fractured by fall of coal at face of breast.
Sept.	16	George Matijek, .....	Slavonian, ..	Machine runner, ..	26	M.	Sayre, .....	Northumberland	Leg and arm lacerated by blast in tunnel.
	25	Michael Lapski, .....	Polish, .....	Miner, .....	55	M.	Sayre, .....	Northumberland	Compound fracture of leg by fall of slate at face.
	17	Neal Conway, .....	American, ..	Runner, .....	28	S.	Centralia, .....	Columbia, .....	Hand crushed while blocking a car wheel.
	23	Michael Sikko, .....	Russian, ..	Laborer, .....	20	M.	Centralia, .....	Columbia, .....	Arm fractured by fall of coal while retreating a chute.
	28	Steve Kovitch, .....	Greek, .....	Laborer, .....	18	S.	Sayre, .....	Northumberland	Knee fractured by being bumped between cars. Outside.
	30	Mike Wasser, .....	Lithuanian, ..	Loader, .....	28	S.	Packer No. 2, ..	Schuykill, .....	Compound fracture of leg by fall of coal at face.
Oct.	4	Anthony Tushinski, ...	Greek, .....	Miner, .....	24	S.	Sayre, .....	Northumberland	Hands and neck burned by explosion of gas.
	5	Theo. Hamock, .....	Greek, .....	Laborer, .....	53	S.	Sayre, .....	Northumberland	Two of two fingers cut off while handling rails. Outside.
		Anthony Petrusky, ...	Lithuanian, ..	Miner, .....	30	M.	East Bear Ridge, ...	Schuykill, .....	Collar bone fractured by fall of coal at face of gangway.
	11	Edward Lavelle, .....	Irish, .....	Miner, .....	47	M.	Centralia, .....	Columbia, .....	Top of finger cut off by being caught between buggy and roof.
	19	Stiney Savonis, .....	Russian, ..	Miner, .....	23	S.	Packer No. 5, ..	Schuykill, .....	Collar bone fractured by falling down a breast.
Nov.	20	Thomas Carter, .....	American, ..	Loader-hoss, .....	42	M.	Hammond, .....	Schuykill, .....	Foot crushed by cars.
	6	James Quigley, .....	American, ..	Footman, .....	27	S.	Bast, .....	Schuykill, .....	Two ribs fractured by falling from top of busk car. Outside.
	13	Tony Montou, .....	Italian, .....	Plateman, .....	43	S.	Packer No. 5, ..	Schuykill, .....	Right arm fractured by rock falling on it in breaker. Outside.
	16	John Fagdey, .....	American, ..	Miner, .....	54	M.	Sayre, .....	Northumberland	Scalp lacerated by falling coal in gangway.
Dec.	20	William Brennan, ...	American, ..	Blacksmith- helper	23	S.	Hammond, .....	Schuykill, .....	Top of finger cut off while sharpening steel.
	12	Peter Fulen, .....	American, ..	Loader, .....	49	S.	Girard Bear Ridge, ..	Schuykill, .....	Ribs and pelvis fractured by a prop that rolled down the slope.
	13	John McAndrew, .....	American, ..	Laborer, .....	17	S.	Centralia, .....	Columbia, .....	Two fingers cut off. Caught between snub rope and prop. Outside.
	15	Thomas Kilroy, .....	American, ..	Starter, .....	42	M.	Hammond, .....	Schuykill, .....	Leg fractured by rush of coal in chute.

## CONDITION OF COLLIERIES

## LEHIGH VALLEY COAL COMPANY

Centralia, Sayre, Packer Nos. 2, 3, 4 and 5 Collieries.—Ventilation, drainage and condition as to safety, good.

## PHILADELPHIA AND READING COAL AND IRON COMPANY

Hammond, Bast and Potts Collieries.—Ventilation, drainage and condition as to safety, good.

## MIDVALLEY COAL COMPANY

Midvalley Colliery.—Ventilation and condition as to safety, good. Drainage, fair.

## GIRARD MAMMOTH COAL COMPANY

Girard Mammoth Colliery.—Ventilation and condition as to safety, good. Drainage, fair.

## EAST BEAR RIDGE COAL COMPANY

East Bear Ridge Colliery.—Ventilation, drainage and condition as to safety, good.

## BEAVER VALLEY COAL COMPANY

Scotch Valley Colliery.—Ventilation and drainage, fair. Condition as to safety, good.

## HARLEIGH BROOKWOOD COAL COMPANY

West Bear Ridge Colliery.—Ventilation and drainage, fair. Condition as to safety, good.

## W. R. McTURK COAL COMPANY

Girard Bear Ridge Colliery.—Ventilation and drainage, fair. Condition as to safety, good.

## IMPROVEMENTS

## LEHIGH VALLEY COAL COMPANY

Centralia Colliery.—A rock hole was driven from East Four Foot basin to East Holmes basin, distance 97 feet.

A rock hole was driven from Mammoth leader to Four Foot basin, distance 36 feet.

Mouth of Seven Foot tender slope concreted through wash.

Mouth of drainage tunnel concreted through wash.

Mouth of Seven Foot Mammoth slope concreted through wash.

Logan Slope.—No. 5 slope head concreted.

Continental Shaft.—Rock slope from East south dip No. 2 level Mammoth gangway to East Holmes basin slope, was completed, distance 300 feet.

Locust Run Slope.—A rock plane was driven from East south dip Skidmore gangway to Mammoth vein.

A tunnel was driven from West south dip Skidmore No. 1 gangway to Mammoth vein water level, distance 220 feet.

Sayre Colliery.—A tunnel was driven from East south dip Holmes vein to Skidmore vein second level, distance 122 feet.

A rock airway was driven from third level to second level Holmes bottom split, distance 690 feet.

A tunnel was driven from south dip Skidmore to north dip Mammoth vein third level, distance 566 feet.

A tunnel was driven from face of present first level tunnel to Buck Mountain vein south dip, distance 440 feet.

Sioux No. 3 Slope.—A rock cross cut was driven from Holmes vein north dip to Holmes vein south dip, third level, distance 172 feet.

A tunnel was driven from Sioux No. 3 West south dip Mammoth third level through barrier pillar to Sioux No. 1, No. 10 vein south dip and Holmes bottom vein south dip, distance 105 feet.

Packer No. 2 Colliery.—A tunnel was driven from Holmes to Orchard vein third level, distance 124 feet.

Skidmore East second level gangway was connected with west third level Skidmore gangway from Packer No. 4, to be used for drainage and haulage purposes. A new hospital was built on the fifth level.

Packer No. 3 Colliery.—A tunnel was driven from Buck to Little Buck vein, fourth level, distance 33 feet.

Electric haulage was installed on the second level.

Packer No. 4 Colliery.—A tunnel was driven from Seven Foot to Buck Mountain vein, first level, 73 feet; also tunnel from Seven Foot Buck Mountain, second level, 56 feet.

Buck Mountain slope was extended through rock to surface, 130 feet.

A tunnel was driven from Seven Foot to Skidmore vein East south dip, third level, 117 feet.

A rock hole was driven from Primrose to Orchard vein, third level, 106 feet. One 25 by 44 by 15 by 48 inch Goyne pump was installed, and a 14-inch column line laid to the surface. New suit conveyor line was completed.

A wash house for boiler house employes was built in the east end of boiler house.

A new fireproof hospital was built outside.

A new 14-inch column line from Buck slope to the breaker was completed for breaker wash water and fire protection.

Packer No. 5 Colliery.—A rock airway was driven on second level from Seven Foot to Mammoth, 120 feet.

A rock airway was driven from Seven Foot to Holmes east second level, 142 feet.

A rock airway was driven from Little Diamond vein, first level, to surface, 200 feet.

A new fireproof fan was installed at shaft, replacing old fans at drift and shaft.

One thousand additional horse power was added to boiler plant and new brick building erected for same. New conveyor line was built from breaker to boiler house for fuel. A conveyor line was built from boiler house for disposing of ashes. A new steel breaker was put in operation.

## EAST BEAR RIDGE COAL COMPANY

East Bear Ridge Colliery.—A new breaker was built and put in operation during the year, and electric haulage was installed in the mines.

## W. R. McTURK COAL COMPANY

Girard Bear Ridge Colliery.—A new breaker was built and put in operation during the year.

## MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen, was held in St. Ignatius Hall, Centralia, May 18 and 19. The Board of Examiners was composed of the following: James A. O'Donnell, Mine Inspector; Centralia; H. J. Heffner, Superintendent, Centralia; John Meredith, Miner, Ashland; James Price, Miner, Ashland.

The following persons passed a satisfactory examination and were granted certificates:

## MINE FOREMEN

Lawrence Morrissey, Ashland; James H. Pierce, Frackville; James Burns, George Pollard, Joseph Koch, Thomas Gallagher, Centralia; Michael O'Boyle, Lost Creek; John H. Jones, Mahanoy Plane.

## ASSISTANT MINE FOREMEN

Thomas Wills, Jr., Theodore Krah, Centralia; Michael L. Toole, Lost Creek; Joseph Lapinski, Mount Carmel.

## FIFTEENTH DISTRICT

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NORTHUMBERLAND COUNTY

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Mount Carmel, Pa., February 26, 1916.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor of transmitting herewith my annual report as Inspector of Mines for the Fifteenth Anthracite District, for the year ending December 31, 1915.

Respectfully submitted,

BENJAMIN I. EVANS,

Inspector.



## SUMMARY OF STATISTICS

Number of collieries, .....	9
Number of mines, .....	28
Number of mines in operation, .....	28
Number of tons of coal shipped to market, .....	2,040,504
Number of tons used at mines for steam and heat, .....	348,926
Number of tons sold to local trade and used by employes, .....	46,701
Number of tons produced, .....	2,436,131
Number of tons produced by compressed air machines, ..	.....
Number of tons produced by electrical machines, .....	.....
Number of persons employed inside of mines, .....	4,904
Number of persons employed outside, .....	1,820
Number of fatal accidents inside of mines, .....	15
Number of fatal accidents outside, .....	2
Number of non-fatal accidents inside of mines, .....	18
Number of non-fatal accidents outside, .....	5
Number of tons of coal produced per fatal accident inside, ..	162,409
Number of tons produced per fatal accident outside, ...	1,218,066
Number of tons produced per fatal accident inside and outside, .....	143,302
Number of persons employed per fatal accident inside, ..	327
Number of persons employed per fatal accident outside, .	910
Number of persons employed per fatal accident inside and outside, .....	396
Number of persons employed per non-fatal accident inside, ..	272
Number of persons employed per non-fatal accident outside, .....	364
Number of persons employed per non-fatal accident inside and outside, .....	292
Number of wives made widows, .....	11
Number of children made orphans, .....	37
Number of steam locomotives used inside of mines, ....	.....
Number of steam locomotives used outside, .....	19
Number of compressed air locomotives used inside, ....	1
Number of compressed air locomotives used outside, ....	.....
Number of electric motors used inside, .....	22
Number of electric motors used outside, .....	.....
Number of gasoline locomotives used inside, .....	1
Number of fans in use, .....	28
Number of furnaces in use, .....	.....
Number of gaseous mines in operation, .....	14
Number of non-gaseous mines in operation, .....	14
Number of new mines opened, .....	.....
Number of old mines abandoned, .....	.....



## TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
Philadelphia and Reading Coal and Iron Company, ....	921,139
Susquehanna Coal Company, .....	868,323
Colonial Collieries Company, .....	266,863
Greenough Red Ash Coal Company, .....	255,291
Enterprise Coal Company, .....	103,355
Shamokin Red Ash Coal Company, .....	21,160
Total, .....	<u>2,436,131</u>

## Production by Counties

Northumberland, .....	<u>2,436,131</u>
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TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed, number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Total	Outside	Inside	Total	Outside	Inside									
Philadelphia and Reading Coal and Iron Co., .....	5	.....	5	17	2	9	184,228	102,349	1,975	669	2,644	395	.....	219	223
Susquehanna Coal Co., .....	6	1	6	1	2	6	144,720	144,720	2,061	731	2,772	343	711	343	355
Colonial Collieries Co., .....	1	1	1	1	.....	1	144,720	296,853	365	175	540	343	175	365	.....
Greenough Red Ash Coal Co., .....	4	.....	2	2	.....	2	63,823	127,645	406	135	601	101	.....	203	.....
Miscellaneous Companies, .....	.....	.....	.....	.....	.....	.....	.....	.....	97	70	167	.....	.....	.....	.....
Totals and averages, .....	15	2	17	23	5	18	162,409	135,341	4,904	1,820	6,724	327	910	272	364

TABLE C.—Causes of Fatal Accidents Inside and Outside of Mines

	Months												Totals	Percentages
	January	February	March	April	May	June	July	August	September	October	November	December		
Inside														
Falls of coal, .....	1	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	3	20.00
Falls of slate, .....	.....	1	.....	.....	1	.....	1	1	.....	.....	1	1	6	40.00
Falls of roof, .....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	6.66
Mine cars, .....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	13.33
Push of coal, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	6.67
Push of water, .....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	6.67
Struck by timber, .....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	6.67
Totals, .....	2	2	2	1	2	.....	1	1	1	.....	2	1	15	100.00
Outside														
Cars, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	2	100.00
Totals, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	2	100.00
Grand totals inside and outside, .....	2	2	2	1	2	.....	1	1	1	1	3	1	17	.....

TABLE D.—Causes of Non-Fatal Accidents Inside and Outside of Mines

	Months												Totals	Percentages
	January	February	March	April	May	June	July	August	September	October	November	December		
Inside														
Falls of coal, .....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	1	3	16.67
Falls of slate, .....	1	1	.....	.....	1	1	1	1	.....	.....	1	.....	7	38.89
Explosions of gas, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	2	3	16.67
Blasts, premature and otherwise, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	2	11.12
Falling into slopes, etc., .....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	5.55
Rush of coal, .....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	5.55
Explosion of carbide, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	5.55
Totals, .....	1	1	2	.....	1	1	1	2	1	.....	4	4	18	100.00
Outside														
Cars, .....	1	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	3	60.00
Scalded by steam, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	20.00
Struck by timber, .....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	20.00
Totals, .....	1	.....	.....	1	1	.....	.....	.....	.....	1	.....	1	5	100.00
Grand totals inside and outside, .....	2	1	2	1	2	1	1	2	1	1	4	5	23	.....

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months											
	January	February	March	April	May	June	July	August	September	October	November	Totals
<b>Inside</b>												
Fire bosses and assistants, ..	...	...	1	...	...	...	...	...	...	...	...	1
Miners, .....	1	2	...	1	1	...	...	1	1	...	1	9
Miners' laborers, .....	...	...	1	...	1	...	1	...	...	...	1	4
Drill runners, .....	1	...	...	...	...	...	...	...	...	...	...	1
<b>Totals, .....</b>	<u>2</u>	<u>2</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>...</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>...</u>	<u>2</u>	<u>15</u>
<b>Outside</b>												
Conductors, .....	...	...	...	...	...	...	...	...	...	1	...	1
Brakemen, .....	...	...	...	...	...	...	...	...	...	...	1	1
<b>Totals, .....</b>	<u>...</u>	<u>...</u>	<u>...</u>	<u>...</u>	<u>...</u>	<u>...</u>	<u>...</u>	<u>...</u>	<u>...</u>	<u>1</u>	<u>1</u>	<u>2</u>
<b>Grand totals inside and outside, .....</b>	<u>2</u>	<u>2</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>...</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>3</u>	<u>17</u>

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months											
	January	February	March	April	May	June	July	August	September	October	November	Totals
<b>Inside</b>												
Miners, .....	1	1	2	...	1	1	1	1	1	...	3	14
Miners' laborers, .....	...	...	...	...	...	...	...	1	...	...	1	3
Bottommen, .....	...	...	...	...	...	...	...	...	...	...	...	1
<b>Totals, .....</b>	<u>1</u>	<u>1</u>	<u>2</u>	<u>...</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>...</u>	<u>4</u>	<u>18</u>
<b>Outside</b>												
Drivers, .....	...	...	...	...	...	...	...	...	...	1	...	1
Fanmen, .....	...	...	...	...	...	...	...	...	...	...	1	1
Laborers, .....	1	...	...	...	1	...	...	...	...	...	...	2
Spraggers, .....	...	...	...	1	...	...	...	...	...	...	...	1
<b>Totals, .....</b>	<u>1</u>	<u>...</u>	<u>...</u>	<u>1</u>	<u>1</u>	<u>...</u>	<u>...</u>	<u>...</u>	<u>...</u>	<u>1</u>	<u>...</u>	<u>5</u>
<b>Grand totals inside and outside, .....</b>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>4</u>	<u>23</u>

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months											
	January	February	March	April	May	June	July	August	September	October	November	Totals
American, .....	.....	1	1	.....	1	.....	.....	.....	1	.....	.....	4
Irish, .....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Polish, .....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	3
Hungarian, .....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	2
Italian, .....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
Slavonian, .....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Lithuanian, .....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Austrian, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1
Russian, .....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	2
Tyrolean, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1
Totals, .....	2	2	2	1	2	.....	1	1	1	1	3	17

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months											
	January	February	March	April	May	June	July	August	September	October	November	Totals
American, .....	2	.....	.....	1	1	.....	1	.....	.....	1	.....	8
German, .....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Polish, .....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	3	5
Italian, .....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	2
Lithuanian, .....	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....	2
Austrian, .....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
Russian, .....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	2
Totals, .....	2	1	2	1	2	1	1	2	1	1	4	23

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Philadelphia Coal and Iron Co.	Slope, .....	Gasous, ..	Fan, .....	21	5.6	5.6	79	1.7	Reading, ..	{	..	10	46,700	48,000	47,400	511
Locust Spring Colliery:	Locust Spring, East, ..	Gasous, ..	Fan, .....	16	4.6	4.6	105	1.5	Guibal, ..	Steam, ..	..	7	33,000	29,500	31,000	511
Locust Spring, West, ..	Locust Spring, West, ..	Gasous, ..	Fan, .....	16	4.0	4.0	84	1.3	Guibal, ..	..	..	6	49,600	49,200	50,500	474
Locust-Gap, East, ..	Locust-Gap, East, ..	Gasous, ..	Fan, .....	21	5.0	4.6	80	1.4	Guibal, ..	..	..	10	76,700	76,000	77,100	474
Locust-Gap, West, ..	Slope, .....	Non-gas, ..	Fan, .....	15	4.0	3.6	90	..	Guibal, ..	{	..	9	21,000	20,370	22,000	474
Locust-Gap, Buck Mountain, ..	Slope, .....	Non-gas, ..	Fan, .....	12	4.0	3.6	70	.7	Reading, ..	{	..	4	8,000	7,900	8,740	684
Alaska Colliery:	Alaska No. 1, .....	Non-gas, ..	Fan, .....	18	4.8	5.0	90	1.6	Guibal, ..	Steam, ..	..	10	165,490	164,000	166,370	366
Alaska No. 2, .....	Shaft, .....	Non-gas, ..	Fan, .....	18	7.0	6.5	89	1.5	Guibal, ..	Steam, ..	..	9	..	..	..	..
Reliance Colliery:	Reliance No. 1, .....	Gasous, ..	Fan, .....	18	5.6	5.6	78	1.6	Guibal, ..	Steam, ..	..	9	94,490	93,000	95,460	366
Reliance No. 2, .....	Shaft, .....	Gasous, ..	Fan, .....	18	5.6	5.6	82	1.5	Guibal, ..	{	..	8	..	..	..	..
Susquehanna Coal Co.	Slope, .....	Gasous, ..	Fan, .....	21	6.3	6.3	89	1.7	Guibal, ..	Steam, ..	..	4	81,000	65,000	86,300	335
Pennsylvania Colliery:	No. 8 vein, N. D., .....	Gasous, ..	Fan, .....	16	5.0	5.0	65	1.1	Guibal, ..	..	..	5	50,650	35,900	53,900	150
No. 10 vein, S. D., .....	Slope, .....	Gasous, ..	Fan, .....	16	3.5	3.5	75	1.4	Guibal, ..	..	..	5	79,865	59,900	85,000	299
Richards Colliery:	No. 1, .....	Gasous, ..	Fan, .....	18	7.2	5.2	106	2.2	Guibal, ..	Steam, ..	..	4	86,000	44,000	91,600	175
No. 2, .....	Slope, .....	Gasous, ..	Fan, .....	20	6.8	6.4	96	2.3	Guibal, ..	..	..	3	145,000	72,000	151,400	215
No. 3, .....	Slope, .....	Non-gas, ..	Fan, .....	16	4.5	4.5	90	.5	Guibal, ..	..	..	3	140,840	70,450	150,000	110
Scott Colliery:	No. 1, .....	Gasous, ..	Fan, .....	18	7	5.6	100	2	Vulcan, ..	Steam, ..	..	8	156,000	78,000	166,100	380
No. 2, .....	Shaft, .....	Gasous, ..	Fan, .....	19	5	2.6	168	1.5	Vulcan, ..	Steam, ..	..	5	103,200	52,000	110,600	240





TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Philadelphia and Reading Coal and Iron Co. Locust Spring, ..... Alaska, ..... Reliance, ..... Susquehanna Coal Co. Pennsylvania, ..... Richards, ..... Scott, ..... Colonial Collieries Co. Natalie, ..... Greenough Red Ash Coal Co. Greenough, ..... Enterprise Coal Co. Enterprise, ..... Shamokin Red Ash Coal Co. McGhee Washery, .....	Northumberland,    Northumberland,  Northumberland, Northumberland, Northumberland, Northumberland, Northumberland,  Northumberland,       Northumberland.	W. J. Richards, General Manager.   Robert A. Quin, ....  W. G. Thomas, .... Edward Brennan, ... W. L. Connell, ..... Joseph Evans, .....	Pottsville,  Wilkes-Barre, .....  Pottsville, ..... Shamokin, ..... Scranton, ..... Shamokin, .....	P. F. Brennan, .....  William R. Reinhardt  J. M. Holt, ..... Josiah Rhoads, ..... Edward X. Brennan, D. H. McGhee, ....	Shamokin, .....  Shamokin, ..... Natalie, ..... Shamokin, ..... Shamokin, ..... Shamokin, ..... Shamokin, .....	P. and R.   Pennsylvania  P. and R. Pennsylvania P. and R. Pennsylvania

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employees	Total production of coal in tons	Number of days worked	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Explosives				Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used		
Philadelphia and Reading Coal and Iron Co.														
Locust Spring, .....		362,785	8,116	2,196	373,997	204	827	1	.....	1	8,775	121,990	17,812	93
Locust Gap, .....		270,666	63,750	.....	63,750	.....	474	.....	.....	.....	.....	136,737	2,475	57
Alaska, .....	Northumberland, ..	128,320	27,982	72	298,739	922	846	3	10	.....	101,750	135,939	13,360	33
Reliance, .....		{ 7,607	33,002	16,643	177,965	217	446	1	1	.....	3,675	137,135	.....	.....
Locust Spring Washery, .....		.....	.....	.....	7,607	43	51	.....	.....	.....	.....	.....	.....	.....
Totals, .....		769,378	132,850	18,911	921,139	.....	2,644	5	12	.....	114,200	571,336	33,587	181
Susquehanna Coal Co.														
Pennsylvania, .....		{ 278,648	40,035	16,528	335,211	189	1,063	2	3	.....	32,750	21,899	137,350	59
Richards, .....	Northumberland, ..	{ 274,319	47,102	81	291,502	190	938	3	3	.....	23,625	242,323	500	75
Scott, .....		{ 265,609	31,356	4,614	241,610	199	771	2	2	.....	22,935	18,350	118,725	50
Totals, .....		728,567	113,533	21,223	868,323	.....	2,772	7	8	.....	79,300	282,542	256,375	184
Colonial Collieries Co.														
Natalie, .....	Northumberland, ..	234,415	29,000	3,448	266,863	129	540	1	1	.....	15,745	.....	.....	47
Greenough Red Ash Coal Co.														
Greenough, .....	Northumberland, ..	223,269	29,078	2,944	255,291	240	601	4	2	.....	73,750	79,300	.....	63
Enterprise Coal Co.														
Enterprise, .....	Northumberland, ..	64,180	39,000	175	103,355	160	151	.....	.....	.....	20,275	14,316	.....	42
Shamokin Red Ash Coal Co.														
McGhee Washery, .....	Northumberland, ..	20,695	465	.....	21,160	125	16	.....	.....	.....	.....	.....	.....	.....
Grand totals, .....		2,040,504	348,926	46,701	2,436,131	.....	6,724	17	23	.....	303,270	947,494	290,162	519



TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside										Outside										Grand total	
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside		
Philadelphia and Reading Coal and Iron Co.	Northumberland,	5	30	....	878	956	134	20	20	183	439	1,975	....	8	29	114	69	47	17	385	669	2,644	
Susquehanna Coal Co.		4	7	37	918	364	129	23	37	33	529	2,031	1	4	46	103	241	....	22	294	711	2,772	
Colonia Collieries Co.		1	4	....	160	65	20	4	9	33	69	365	1	1	14	27	20	....	6	104	175	540	
Greenough Red Ash Coal Co.		4	1	2	198	79	31	2	6	30	53	406	1	1	11	21	79	1	3	78	195	601	
Enterprise Coal Co.		1	1	....	43	12	6	5	5	24	....	97	1	1	7	26	....	8	9	2	54	151	
Shamokin Red Ash Coal Co.		....	....	....	....	....	....	....	....	....	....	....	....	1	1	1	2	2	....	....	9	16	16
Totals,		15	43	39	2,197	786	320	54	77	283	1,070	4,904	5	16	108	283	411	62	53	872	1,820	6,721	





TABLE 4.—Fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 11	John Dudashick, .....	Slavonian, ..	Drill runner	33	M.	1	4	Richards, .....	Northumberland.	Killed by fall of rock in tunnel.
25	Jeston Senkon, .....	Lithuanian, ..	Miner, ....	40	M.	1	5	Greenough, .....		Killed by fall of coal off pillar while loading car.
Feb. 3	George Schnee, .....	American, ...	Miner, ....	45	M.	1	1	Alaska, .....		Killed by fall of slate at face of pillar.
	Steve Koskie, .....	Russian, ....	Miner, ....	38	S.	...	...	Richards, .....		Killed by car running over him on gangway. He fell off car.
March 4	Oscar Keller, .....	American, ..	Laborer, ..	47	M.	1	3	Alaska, .....		Killed by rush of water. He was putting in a sprag between the rib and a slush pipe, and while hammering the sprag the pipe came apart and the pressure of water forced him against the rib of gangway.
23	James O'Neil, .....	Irish, .....	Fire boss, ..	59	S.	...	...	Reliance, .....		Killed by being run over by car on plane.
April 6	Mike Chena, .....	Russian, ...	Miner, ....	42	M.	1	7	Locust Spring, ..		Killed by fall of coal at face of gangway.
May 3	Alonzo Welsh, .....	American, ..	Miner, ....	35	M.	1	1	Pennsylvania, ..		Killed by being struck on head by a prop at face of pillar.
6	Mike Howart, .....	Hungarian, ..	Laborer, ..	28	S.	...	...	Greenough, .....		Killed by fall of slate in breast.
July 8	Zelsick Perkins, .....	Hungarian, ..	Laborer, ..	26	S.	1	6	Scott, .....		Killed by fall of slate at face of gangway.
Aug. 11	Jake Kaslinski, .....	Polish, .....	Miner, ....	39	M.	1	4	Greenough, .....		Killed by fall of slate at face of breast.
Sept. 23	Patrick Curran, .....	American, ...	Miner, ....	45	M.	1	2	Greenough, .....		Killed by fall of top coal at face of breast.
Oct. 1	George Rick, .....	Italian, .....	Conductor, ..	22	S.	...	...	Natalie, .....		Killed by being cramped between engine and cars. (Outside.)
Nov. 6	Steve Mazura, .....	Austrian, ...	Brakeman, ..	18	S.	...	...	Richards, .....		Killed by being run over by engine. He fell off the engine. (Outside.)
10	Charles Domotski, ..	Polish, .....	Laborer, ..	23	M.	1	...	Alaska, .....		Killed by fall of slate in an old breast.
13	Lawrence Capaletti, ..	Tyrolese, ...	Miner, ....	43	S.	...	...	Pennsylvania, ..		Killed by rush of coal in heading.
21	Mike Gruet, .....	Polish, .....	Miner, ....	52	M.	1	6	Scott, .....		Killed by fall of slate while loading car at face of gangway.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 11	Albert Leihl, .....	American, ..	Laborer, ..	21	S.	Alaska, .....	Northumberland.	Injured internally. Caught between car and concrete wall. (Outside.)
Jan. 25	William Beltz, .....	American, ..	Miner, .....	41	M.	Alaska, .....		Leg broken by fall of slate in breast.
Feb. 24	John Metzinger, .....	German, ....	Miner, .....	44	M.	Alaska, .....		Leg broken by fall of slate at face of breast.
March 12	Simon Mickowski, .....	Lithuanian, ..	Miner, .....	39	M.	Greenough, .....		Leg broken by fall of coal at face of breast.
March 24	Stany Statskill, .....	Polish, .....	Miner, .....	40	M.	Alaska, .....		Leg broken by being struck by lump of coal that rolled down chute.
April 21	John Johnson, .....	American, ..	Spragger, .....	19	S.	Alaska, .....		Arm broken by being bumped between cars. (Outside.)
May 5	Edward Reed, .....	American, ..	Laborer, .....	63	S.	Alaska, .....		Leg broken by a piece of timber rolling on it. (Outside.)
June 11	Alfred Kidder, .....	Russian, ....	Miner, .....	35	M.	Natalie, .....		Leg broken by fall of slate in chute.
June 7	George McLitus, .....	Lithuanian, ..	Miner, .....	40	M.	Alaska, .....		Arm broken and pelvis injured by fall of slate at face of chute.
July 28	Joseph Naylor, .....	American, ..	Miner, .....	27	M.	Greenough, .....		Leg broken by fall of slate at face of breast.
Aug. 10	Conda Brida, .....	Austrian, ...	Laborer, .....	20	S.	Reliance, .....		Leg broken by fall of slate at face of breast.
Sept. 24	Zigmond Rokus, ....	Russian, ....	Miner, .....	37	M.	Alaska, .....		Leg broken and middle finger cut off by fall of coal on gangway.
Sept. 24	Tony Agen, .....	Italian, .....	Miner, .....	34	M.	Richards, .....		Injured internally by falling down breast manway.
Oct. 20	Sam Bouchack, .....	American, ..	Driver, .....	19	S.	Richards, .....		Leg broken by being bumped between car and mule.
Nov. 8	Joseph Sovokhuis, ....	Russian, ....	Miner, .....	30	M.	Pennsylvania, ..		Injured internally by fall of slate at face of pillar.
Nov. 17	Anthony Griscavage, .....	Polish, .....	Miner, .....	38	M.	Alaska, .....		Head injured by premature blast at face of breast.
	Wally Derovitch, ....	Polish, ....	Laborer, .....	22	S.	Alaska, .....		Head and body injured by premature blast at face of breast.
	George Bervitski, ....	Polish, ....	Miner, .....	42	M.	Pennsylvania, ..		Burned by explosion of gas in heading. After firing a shot he went back with a naked light on his head.
Dec. 1	Fred Lescowski, .....	Polish, .....	Miner, .....	44	S.	Pennsylvania, ..		Leg broken by fall of coal at face of gangway.



## CONDITION OF COLLIERIES

## PHILADELPHIA AND READING COAL AND IRON COMPANY

Locust Spring Colliery.—Shaft, No. 1, Holmes, East, West and Summit Slopes. Ventilation, drainage and condition as to safety, good.

Locust Gap Colliery.—East, West and Buck Mountain Slopes: Ventilation, drainage and condition as to safety, good.

Alaska and Reliance Collieries.—Ventilation, drainage and condition as to safety, good.

## SUSQUEHANNA COAL COMPANY

Pennsylvania Colliery.—Nos. 1 and 5 Slopes: Ventilation, drainage and condition as to safety, good.

Richards Colliery.—Nos. 1 and 4 Tunnels. Ventilation, drainage and condition as to safety, good.

Scott Colliery.—Ventilation, drainage and condition as to safety, good.

## COLONIAL COLLIERIES COMPANY

Natalie Colliery.—Nos. 2, 3, and 4 Slopes and Lykens Nos. 1 and 2. Ventilation, drainage and condition as to safety, good.

## GREENOUGH RED ASH COAL COMPANY

Greenough Colliery.—Shaft and Drift. Ventilation, drainage and general condition, good.

## ENTERPRISE COAL COMPANY

Enterprise Colliery.—Shaft. Ventilation and condition as to safety, fair. Drainage poor.

## IMPROVEMENTS

## SUSQUEHANNA COAL COMPANY

Pennsylvania Colliery.—A tunnel 8 by 10 feet was driven 38 feet in No. 1 slope, shaft level No. 9 to No. 8 seam.

A tunnel 8 by 10 feet was also driven 155 feet in No. 5 slope, No. 10 to No. 9 seam.

A tunnel 8 by 10 feet was driven 22 feet in No. 4 slope No. 9½ counter, No. 9 to No. 8 seam.

A small tunnel was also driven in No. 1 slope shaft level No. 9½ seam to No. 9 seam.

An electric hoist was installed in No. 4 vein No. 2 slope level west slant slope to take the place of air engines.

No. 2 slope No. 4 seam west was driven 177 feet below first lift for a second lift.

Richards Colliery.—There were 150 new steel cars put into service for the new water level tunnel.

A tunnel 8 by 10 feet was driven 22 feet in No. 4 slope, No. 6 to No. 4 seam.

The new water level tunnel, 8 by 12 feet, was driven 1,011 feet in 1915 and completed.

It was equipped with electric haulage for a distance of 4,000 feet. 16,200 feet of railroad track laid to connect the new water level tunnel with the breaker.

A generator house was built of concrete block, 20 by 19 feet, at the new water level tunnel.

A tunnel has been started in No. 2 slope No. 5 to No. 4 seam, north dip.

A tunnel 8 by 10 feet was driven 20 feet in No. 2 slope, No. 9 to No. 9½ seam.

A new steel bridge, double track, was built for rock and dirt road.

A rock line and hopper, 3 spans, 3 feet wide, 220 feet long, was built to convey material from breaker to bank.

No. 4 fan, a temporary structure, was placed on outcrop of No. 5 vein with mud drift from the outcrop of No. 4 vein, until the air shaft was completed. No. 4 air shaft, 10 by 13 feet inside, of timber, was sunk 235 feet. This fan will ventilate the new water level tunnel and when finished will do away with the No. 4 fan temporarily built.

No. 6 slope extension made to give another lift on that opening, and was sunk 230 feet on 6 degrees dip.

A lamp house 20 by 11 feet was built alongside of generator house at new water level tunnel to take care of lamps from that working.

Scott Colliery.—Ten new steel cars were put into service.

In 1914 a new fan was placed on top of a new air shaft driven up from the anticlinal in No. 8 seam dividing Hickory Ridge and Scott Collieries. This fan, which is of the Vulcan type 10 feet in diameter, with 30 blades 84 by 16 inches and 10 blades 84 by 18 inches, making 168 revolutions per minute, was completed in 1915.

A slush conveyor 80 feet long, 27 by 10 inches, was built to convey material from breaker to bank.

An electric hoist in No. 9 vein plane short hoist was installed to replace compressed air.

A tunnel 8 by 10 feet was driven 90 feet in No. 72 counter No. 9½ to No. 8 seam to cut the No. 8 seam.

No. 4 slope No. 6 seam was driven 620 feet, 12 feet wide, during the year and is expected to prove a basin to which a tunnel is expected to be driven to develop a new lift in several seams.

#### COLONIAL COLLIERIES COMPANY

Natalie Colliery—Outside. A new steel frame boiler house was built and covered with asbestos protected sheet steel, with steel sash and wire glass windows.

A new 10 inch wood water line 7,500 feet long was laid to supply the Colliery with fresh water.

Two new Simplex jigs and a complete bank of shakers were installed in the breaker.

One new 125 horsepower fire tube boiler was installed in No. 3 boiler house.

Two new fans were installed, one on the Lykens workings driven by a 50 horsepower motor, and one on the White Ash vein driven by a 10 horsepower motor.



An air line was laid and hoisting engines installed preparatory to sinking the Zerbey slope in the Lykens vein west of No. 1 slope.

A 40 horsepower electric hoist was installed at the No. 4 slope in place of an old compressed air hoist.

Inside.—In the No. 1 Lykens slope a rock chute was driven from the No. 1 vein 4th. lift to the No. 2 vein 3rd. lift to bring the 3rd. lift coal to the main slope bottom.

The No. 2 Lykens slope was sunk from the 2nd. to the 4th. lift and preparation made for driving a double track turnout tunnel to the No. 2 Lykens bed.

In the new No. 4 slope the tunnel was continued to cut the No. 6 bed, and a rock hole was also driven that cut the basin of the No. 7 bed in good condition.

### MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen, was held at the Masonic Hall, May 26 and 27. The Board of Examiners was composed of B. I. Evans, Mine Inspector, Mount Carmel; W. R. Reinhardt, Superintendent, Shamokin; James Bateman, Miner, Mount Carmel; James McHugh, Miner, Mount Carmel.

The following persons passed a satisfactory examination and were granted certificates:

#### MINE FOREMEN

Lawrence Brennan, Shamokin.

#### ASSISTANT MINE FOREMEN.

William Ball, Charles Trefsgaer, Elmer Umlauf, James Thomas, William Billman, John Gummel, Anthony Dakshaw, Mt. Carmel; Lewis Howells, Michael Galda, Kulpmont; Leo Doyle, Jacob Berger, William Felker, Locust Gap; Anthony Waldron, Shamokin; Clarence Penman, Strong; George W. Horne, Excelsior; John Mowry, Mowry.



## SIXTEENTH DISTRICT

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### NORTHUMBERLAND COUNTY

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Shamokin, Pa., February 25, 1916.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my annual report as Inspector of Mines for the Sixteenth Anthracite District, for the year ending December 31, 1915.

Respectfully submitted,

P. J. FRIEL,  
Inspector,

## SUMMARY OF STATISTICS

Number of collieries, .....	14
Number of mines, .....	44
Number of mines in operation, .....	44
Number of tons of coal shipped to market, .....	2,436,631
Number of tons used at mines for steam and heat, ....	352,474
Number of tons sold to local trade and used by employes,	73,327
Number of tons produced, .....	2,862,432
Number of tons produced by compressed air machines, ..	.....
Number of tons produced by electrical machines, .....	.....
Number of persons employed inside of mines, .....	5,337
Number of persons employed outside, .....	2,125
Number of fatal accidents inside of mines, .....	21
Number of fatal accidents outside, .....	1
Number of non-fatal accidents inside of mines, .....	34
Number of non-fatal accidents outside, .....	12
Number of tons of coal produced per fatal accident in- side, .....	136,306
Number of tons produced per fatal accident outside, ....	2,862,432
Number of tons produced per fatal accident inside and outside, .....	130,111
Number of persons employed per fatal accident inside, ..	254
Number of persons employed per fatal accident outside, .	2,125
Number of persons employed per fatal accident inside and outside, .....	339
Number of persons employed per non-fatal accident in- side, .....	157
Number of persons employed per non-fatal accident out- side, .....	177
Number of persons employed per non-fatal accident inside and outside, .....	162
Number of wives made widows, .....	17
Number of children made orphans, .....	42
Number of steam locomotives used inside of mines, ....	1
Number of steam locomotives used outside, .....	28
Number of compressed air locomotives used inside, ....	.....
Number of compressed air locomotives used outside, ..	.....
Number of electric motors used inside, .....	11
Number of electric motors used outside, .....	7
Number of gasoline locomotives used inside, .....	3
Number of fans in use, .....	41
Number of furnaces in use, .....	.....
Number of gaseous mines in operation, .....	26
Number of non-gaseous mines in operation, .....	18
Number of new mines opened, .....	3
Number of old mines abandoned, .....	.....

## TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
Philadelphia and Reading Coal and Iron Company, ....	1,316,381
Susquehanna Coal Company, .....	820,732
Shipman Coal Company, .....	243,857
Excelsior Coal Company, .....	243,830
Buck Ridge Coal Mining Company, .....	120,384
Trevorton Colliery Company, .....	117,248
Total, .....	<u>2,862,432</u>

## Production by Counties

Northumberland, .....	<u>2,862,432</u>
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TABLE B.—Fatal and non-fatal accidents inside and outside of mine; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Philadelphia and Reading Coal and Iron Co.	9	.....	9	10	21	12	146,265	131,638	2,954	912	2,166	250	.....	225	456
Susquehanna Coal Co., .....	5	.....	5	13	.....	20	184,156	134,132	1,796	790	2,156	259	.....	138	113
Shipman Coal Co., .....	3	.....	3	3	.....	4	184,156	81,286	4,480	142	522	127	.....	137	.....
Excelsior Coal Co., .....	3	.....	3	3	.....	4	81,277	80,958	416	119	535	139	.....	104	.....
Buck Ridge Coal Mining Co., .....	1	.....	1	2	.....	3	60,192	60,192	310	102	412	310	.....	155	.....
Trevorton Colliery Co., .....	.....	.....	.....	.....	.....	.....	.....	53,624	181	60	241	.....	.....	91	20
Totals and averages, .....	21	1	22	34	12	46	136,306	84,189	5,337	2,125	7,462	254	2,125	157	177

TABLE C.—Causes of Fatal Accidents Inside and Outside of Mines

	Months												Percentages
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Falls of coal, .....		1	1	.....	.....	.....	.....	1	1	1	.....	1	5
Falls of slate, .....		.....	1	1	.....	.....	1	1	.....	.....	.....	.....	3
Mine cars, .....		.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
Explosions of gas, ....		.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	2
Explosions of powder and dynamite, .....		.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Blasts, premature and otherwise, .....		.....	.....	.....	.....	.....	.....	.....	.....	.....	2	2	4
Totals, .....	.....	1	3	1	1	.....	1	1	1	2	5	3	21
Outside													
Cars, .....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Totals, .....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Grand totals inside and outside, .....	.....	1	4	1	1	.....	1	2	2	2	5	3	22

TABLE D.—Causes of Non-Fatal Accidents Inside and Outside of Mines

	Months												Percentages
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Falls of coal, .....	.....	.....	.....	.....	.....	2	1	.....	.....	1	1	.....	5
Falls of slate, .....	1	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	3
Falls of roof, .....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Mine cars, .....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
Explosions of gas, ....	.....	.....	2	.....	.....	.....	.....	.....	.....	1	.....	.....	4
Explosions of powder and dynamite, .....	1	.....	.....	.....	.....	.....	.....	.....	1	1	.....	1	4
Blasts, premature and otherwise, .....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	2
Crushed at batteries, ..	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	2
Mules, .....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Falling, .....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	1
Struck by pump, .....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Struck by pipe, .....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
Struck by piece of rock, ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
Struck by dump, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Totals, .....	2	1	7	.....	1	2	2	4	1	2	1	5	24
Outside													
Cars, .....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	3	5
Machinery, .....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
Boiler explosions, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
Struck by frozen dirt, ..	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Struck by timber, ....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Struck by pole, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1
Falling, .....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
Kicked by mule, .....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Totals, .....	1	.....	1	1	2	1	.....	.....	1	1	1	3	12
Grand totals inside and outside, .....	3	1	8	1	3	3	2	4	2	9	2	8	46

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months*												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
<b>Inside</b>													
Mine foremen, .....	...	...	...	...	...	...	...	...	...	...	1	...	1
Miners, .....	...	1	3	1	1	...	1	1	1	...	4	3	17
Miners' laborers, .....	...	...	...	...	...	...	...	...	...	1	...	...	1
Loaders, .....	...	...	...	...	...	...	...	1	1	...	...	...	1
Machine runners, .....	...	...	...	...	...	...	...	...	...	...	...	...	1
Totals, .....	...	1	3	1	1	...	1	2	2	2	5	3	21
<b>Outside</b>													
Slatepickers (boys), .....	...	...	1	...	...	...	...	...	...	...	...	...	1
Totals, .....	...	...	1	...	...	...	...	...	...	...	...	...	1
Grand totals inside and outside, .....	...	1	4	1	1	...	1	2	2	2	5	3	22

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
<b>Inside</b>													
Miners, .....	3	1	4	...	1	2	1	1	1	2	...	2	17
Miners' laborers, .....	...	...	1	...	...	...	...	...	...	3	1	...	5
Drivers and runners, .....	...	...	1	...	...	...	...	...	...	1	...	1	3
Conductors, .....	...	...	...	...	...	...	...	...	...	1	...	...	1
Loaders, .....	...	...	...	...	...	...	...	...	...	1	...	...	1
Repairmen, .....	...	...	...	...	...	...	1	1	...	...	...	...	1
Timbermen, .....	...	...	...	...	...	...	...	...	...	...	...	...	2
Starters, .....	...	...	1	...	...	...	...	...	...	...	...	...	1
Machinists, .....	...	...	...	...	...	...	...	...	...	...	...	1	1
Bratticemen, .....	...	...	...	...	...	...	...	...	...	...	...	1	1
Chargemen, .....	...	...	...	...	...	...	...	...	...	...	...	...	1
Totals, .....	3	1	7	...	1	2	2	4	1	3	1	5	34
<b>Outside</b>													
Foremen, .....	...	...	...	...	...	...	...	...	...	...	...	1	1
Engineers and firemen, .....	...	...	...	...	...	...	...	...	...	1	...	...	1
Slatepickers (boys), .....	...	...	...	...	...	1	...	...	...	...	...	...	1
Laborers, .....	1	...	...	1	...	...	...	...	...	...	...	...	3
Drivers and runners, .....	...	...	1	...	...	...	...	...	...	...	...	3	3
Timbermen, .....	...	...	...	...	1	...	...	...	...	...	...	...	1
Bottommen, .....	...	...	...	...	1	...	...	...	1	...	...	...	1
Machinists, .....	...	...	...	...	...	...	...	...	...	...	1	...	1
Electricians, .....	...	...	...	...	...	...	...	...	...	...	...	...	1
Totals, .....	1	...	1	1	2	1	...	...	1	1	1	3	12
Grand totals inside and outside, .....	3	1	8	1	3	3	2	4	2	9	2	8	46



TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months											
	January	February	March	April	May	June	July	August	September	October	November	December
Totals												
American, .....	...	...	2	...	...	...	1	...	...	1	2	...
German, .....	...	...	...	1	...	...	...	1	1	1	...	...
Polish, .....	...	1	...	...	1	...	...	1	1	...	...	...
Russian, .....	...	...	...	...	...	...	...	...	...	...	...	1
Bohemian, .....	...	...	...	...	...	...	...	...	...	...	...	...
Totals, .....	...	1	4	1	1	...	1	2	2	2	2	2

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months											
	January	February	March	April	May	June	July	August	September	October	November	December
Totals												
American, .....	...	1	1	1	2	2	1	2	1	6	2	4
English, .....	1	...	...	...	...	...	...	...	...	...	...	...
Polish, .....	2	...	6	...	1	1	1	2	...	2	...	1
Hungarian, .....	...	...	1	...	...	...	...	...	...	...	...	...
Italian, .....	...	...	...	...	...	...	...	...	...	...	...	1
Slavonian, .....	...	...	...	...	...	...	...	...	...	1	...	1
Russian, .....	...	...	...	...	...	...	...	...	...	...	...	...
Totals, .....	3	1	8	1	3	3	2	4	2	9	2	8

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Philadelphia and Reading Coal and Iron Co.																
North Franklin Colliery:																
North Franklin No. 1.	Drift,.....	Non-gas...	Fan, .....	18	6	5.5	70	.7	{ Guibal, ..	Electricity, ..	..	7	86,000	62,900	87,000	{ 443
North Franklin No. 2.	Slope,.....	Non-gas, ..	Fan, .....	18	6	5.4	84	2.1	{ Guibal, ..	Steam,.....	..	7	33,000	11,500	32,800	{ 450
North Franklin No. 3.	Slope,.....	Gaseous, ..	Fan, .....	18	6	5.4	84	2.1	{ Guibal, ..	Steam,.....	..	7	91,500	77,200	92,100	{ 450
Bear Valley Colliery:																
Bear Valley No. 1.	Shaft,.....	Gaseous...	{ Fan, ...	18	6	5	90	.8	Guibal, ..	Steam,.....	..	7	55,500	52,600	56,600	{ 450
Bear Valley No. 2.	Drift,.....	Non-gas...	Fan, .....	15	5	4	98	.8	Guibal, ..	Electricity, ..	..	9	42,300	36,500	43,500	{ 450
Bear Valley No. 3.	Shaft,.....	Gaseous...	Fan, .....	6	4	1.6	148	.7	Jeffrey, ..	Electricity, ..	..	4	46,400	40,700	47,300	{ 450
Bear Valley No. 4.	Slope,.....	Non-gas, ..	Fan, .....	6	4	1.6	148	.7	Jeffrey, ..	Electricity, ..	..	4	46,400	40,700	47,300	{ 450
Burnside Colliery:																
Burnside No. 1.	Drift,.....	Non-gas...	Fan, .....	15	4.2	5.6	90	1.	{ Guibal, ..	Steam,.....	..	4	40,600	36,000	42,000	{ 451
Burnside No. 2.	Shaft,.....	Gaseous...	2 Fans, ...	{ 15	4	5	90	1.	{ Guibal, ..	Steam,.....	..	3	41,300	37,500	42,500	{ 451
Burnside No. 3.	Shaft,.....	Gaseous...	{ 15	6	5.4	70	1.	1.	{ Guibal, ..	Steam,.....	..	3	34,600	32,000	34,600	{ 451
Stirling Colliery:																
Stirling No. 1.	Slope,.....	Gaseous...	2 Fans, ...	{ 21	7.1	6.1	60	1.3	Guibal, ..	Steam,.....	..	14	99,300	93,400	102,300	{ 292
Stirling No. 2.	Slope,.....	Gaseous...	2 Fans, ...	{ 15	5	4.3	75	.9	Guibal, ..	Steam,.....	..	4	26,160	24,200	27,500	{ 292
Henry Clay Colliery:																
Henry Clay No. 1.	Shaft,.....	Gaseous...	2 Fans, ...	{ 21	7	6.3	75	1.4	Guibal, ..	Steam,.....	..	7	51,890	47,820	52,090	{ 299
Henry Clay No. 2.	Shaft,.....	Gaseous...	2 Fans, ...	{ 15	4	5	120	1.2	Guibal, ..	Steam,.....	..	7	26,620	34,810	36,800	{ 299



TABLE 1.—Continued

Names of Operators and Mines	Number of persons employed inside	181
	Number of cubic feet of air per minute passing out at outlet	38,800 31,900
	Total number of cubic feet of air per minute circulating in all the splits	30,800 26,400
	Number of cubic feet of air per minute entering the mine at inlet	32,900 30,800
	Number of splits of air currents	7 8
	Area of furnace bars in square feet	.. ..
	Power used	Steam..... Steam.....
	Name of fan	Stine, .... Stine, ....
	Water gauge developed—in inches	.7 .7
	Number of revolutions per minute	360 360
	Depth of blades in feet and inches	2.1 2.1
	Width of blades in feet and inches	3.1 3.1
Names of Operators and Mines	Diameter of fan in feet and inches	7 7
	Method of ventilation	{ Fan, ... Fan, .....
	Gaseous or non-gaseous	Non-gas,... Non-gas,... Non-gas,... Non-gas,...
	Kind of opening	Drift,..... Drift,..... Drift,..... Drift,.....
		Trevorton Colliery Co.
		Katherine Colliery
		Katherine No. 1
		Katherine No. 2
		Katherine No. 3
		Katherine No. 4
		Katherine No. 5
		Katherine No. 6

Note.—Two non-gaseous mines ventilated by natural means, no air measurements taken.

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Philadelphia and Reading Coal and Iron Co.						
North Franklin, .....	Northumberland..	G. B. Hadesky, .....	Pottsville, .....	P. F. Brennan, Division Supt. John C. Brown, Inside District Supt. Jos. P. Knapp, Outside District Supt.	Shamokin, .....	P. and R.
North Valley, .....						
Burnside, .....						
Stichling, .....						
Henry Clay, .....						
Big Mountain, .....						
Sasquehanna Coal Co.						
Cameron, .....	Northumberland..	R. A. Quin, .....	Wilkes-Barre, .....	W. R. Reinhardt, ....	Shamokin, .....	Pennsylvania
Lake Erie, .....						
Hickory Ridge, .....						
Hickory Swamp, .....						
Hickory Swamp Wasbery, ..						
Shuman Coal Co.						
Colliert, .....	Northumberland..	Thomas H. Price, .....	Wilkes-Barre, .....	H. H. Kudlish, .....	Wilkes-Barre, .....	Pennsylvania
Excelsior Coal Co.	Northumberland..	George W. Robertson, ..	Shamokin, .....	.....	.....	P. and R.
Corbin, .....						
Buck Ridge Coal Mining Co.	Northumberland..	Telford Lewis, .....	Johnstown, .....	Raymond Lewis, .....	Shamokin, .....	P. and R. and Pennsylvania
Buck Ridge, .....						
Trevorton Colliery Co.						
Katherine, .....	Northumberland..	Clarence T. Starr, ...	Shamokin, .....	.....	.....	P. and R.

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	Number of horses and mules
Philadelpha and Reading Coal and Iron Co.													
North Franklin, .....	Northumberland.	{ 311,000	22,335	6,334	350,279	238	662	3	2	124,625	59,175	.....	47
Bear Valley, .....		256,257	29,078	1,175	286,510	219	630	.....	4	156,900	69,509	.....	49
Blackside, .....		{ 294,617	54,349	15,673	364,639	215	{ 709	3	.....	142,625	38,789	.....	89
Strickland, .....		.....	.....	.....	.....	.....	318	.....	1	108,325	16,879	.....	.....
Henry Clay, .....		{ 255,650	37,801	21,502	314,953	242	{ 329	2	.....	83,760	30,478	11,650	77
Big Mountain, .....		.....	.....	.....	.....	.....	.....	1	.....	62,760	33,786	25	.....
Totals, .....		1,117,534	153,563	45,284	1,316,381	.....	3,166	9	12	679,325	228,766	11,675	262
Susquehanna Coal Co.													
Cameron, .....	Northumberland.	{ 294,041	42,026	15,809	351,976	189	1,095	1	8	73,300	34,044	21,650	93
Lake Fidler, .....		119,586	36,130	6,538	162,254	170	584	3	4	48,325	10,504	683	58
Hickory Ridge, .....		{ 228,945	40,016	842	267,863	191	877	1	2	88,175	83,043	2,475	70
Hickory Swamp, .....		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hickory Swamp Washery, .....		{ 640,522	118,172	23,289	781,983	.....	2,556	6	20	204,800	127,591	24,808	221
Totals, .....		1,117,534	153,563	45,284	1,316,381	.....	3,166	9	12	679,325	228,766	11,675	262
Shipman Coal Co.													
Colbert, .....	Northumberland.	223,721	19,200	936	243,857	280	522	3	3	43,850	109,000	.....	42



Excelsior Coal Co.	Northumberland, ..	215,383	23,000	447	246,830	267	555	3	4	227,600	18,650	.....	26
Corbin, .....													
Buck Ridge Coal Mining Co.	Northumberland, ..	106,350	12,000	2,034	120,384	197	412	1	2	.....	60,900	17,500	26
Buck Ridge, .....													
Trevorton Colliery Co.	Northumberland, ..	108,481	7,430	1,327	117,248	212	241	.....	5	12,200	19,535	3,900	25
Katherine, .....						.....	7,469	22	46	1,167,273	564,432	57,583	632
Grand totals, .....		2,436,631	352,474	73,327	2,862,432								

TABLE 2.—Part 2  
Number and kinds of boilers and locomotives in use, number of steam engines, pumps, electric dynamos and air compressors in use, etc.

Names of Operators	County	Number of Boilers				Locomotives				Total horse power	Number of steam engines of all classes	Total horse power	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors		
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Gasoline	Steam	Air								Electric	
Philadelphia and Reading Coal and Iron Co., .....	Northumberland.	.....	.....	65	8,125	8,125	.....	5	.....	13	145	19,104	21	28,707	8,164	6	6	
Susquehanna Coal Co., .....		.....	.....	54	7,312	7,312	.....	10	.....	5	90	8,910	20	11,520	4,068	3	6	
Shipman Coal Co., .....		.....	.....	13	2,475	2,475	.....	1	.....	.....	.....	54	1,500	3	1,536	370	1	4
Excelsior Coal Co., .....		20	640	14	250	890	.....	10	.....	.....	.....	10	285	.....	.....	.....	.....	.....
Buck Ridge Coal Mining Co., ..		.....	.....	11	1,555	1,555	.....	2	.....	.....	.....	13	450	1	1,307	950	.....	.....
Trevorton Colliery Co., .....		.....	.....	3	900	900	1	.....	.....	.....	.....	7	450	.....	.....	100	.....	1
Totals, .....		20	640	150	20,617	21,257	3	29	.....	18	294	30,599	52	44,131	14,562	10	20	

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside										Outside										Grand total	
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Statepickers (boys)	Statepickers (men)	Bookkeepers and clerks	All other employes	Total outside		
Philadelphia and Reading Coal and Iron Co., .....	Northumberland.	7	46	36	965	404	132	18	15	177	490	2,254	....	9	29	120	97	45	18	594	912	3,166	
Susquehanna Coal Co., .....		4	10	6	695	297	122	24	52	50	538	1,796	....	4	40	103	256	...	28	879	790	2,586	
Shippan Coal Co., .....		1	2	3	180	50	30	5	4	102	380	416	....	1	11	15	6	9	4	95	112	522	
Excelsior Coal Co., .....		1	3	8	209	86	37	...	3	47	27	416	....	1	1	17	12	10	2	65	119	535	
Buck Ridge Coal Mining Co., .....		1	...	3	140	29	62	1	6	72	1	310	....	1	5	25	8	...	3	60	102	412	
Trevorton Colliery Co., .....		1	...	3	95	43	10	1	...	28	...	181	....	1	5	9	8	...	1	32	60	241	
Totals, .....		17	61	55	2,284	942	351	49	80	446	1,051	3,337	4	18	101	239	367	65	56	1,225	2,125	7,462	



TABLE 4.—Fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Feb. 25	Wasil Hudock, .....	Russian, ....	Miner, .....	40	S.	....	....	Hickory Ridge, ..	Northumberland.	Skull fractured by fall of coal near face of mine. Died same day.
March 9	George Dietrick, .....	American, ....	Slatepicker, ..	15	S.	....	....	Cameron, .....		Fatally injured by gas. A draft of cars run from the breaker struck the car he was on and threw him off, and the following car ran over him. Died same day. Outside.
	William Reichold, .....	American, ....	Miner, .....	42	S.	....	....	North Franklin, ..		Killed by fall of top coal at face of breast. Fatally injured by explosion of gas, which he lighted with naked light, near face of robbing. Died March 11.
	Joseph Sohel, .....	Polish, .....	Miner, .....	42	M.	1	1	Henry Clay, ..		Killed by fall of top slate at face of robbing. Died March 11.
27	Wally Konetskie, ....	Polish, .....	Miner, .....	65	M.	1	....	Big Mountain, ..		Killed by fall of top slate at face of work.
April 20	Joseph Androsavage, ..	Polish, .....	Miner, .....	50	M.	1	3	Luke Fidler, ..		Fatally injured by explosion of keg of powder. He lighted a small piece of fuse to test it, and when he threw it away it exploded a keg of powder in the monkey heading. Died May 31.
May 25	Joseph Sokoboskie, ...	Russian, ....	Miner, .....	25	M.	1	2	Hickory Swamp, ..		Killed by fall of slate at face of breast. Killed by fall of slate while cleaning up counter gangway.
July Aug.	Edward Lynch, .....	American, ....	Miner, .....	23	M.	1	1	Burnside, .....		Killed by fall of slate in old gangway where he went while waiting for charginman to fire shot.
26	Steve Grilla, .....	Polish, .....	Miner, .....	50	M.	1	8	Luke Fidler, ..		Fatally injured by coal at face of robbing. Killed by fall of slate at face of robbing.
Sept. 11	Stimoy Launskie, .....	Polish, .....	Miner, .....	46	M.	1	6	Corbin, .....		Fatally injured by runaway car at foot of plane. Died same day.
14	Wasil Roma, .....	Russian, ....	Loader, .....	35	M.	1	....	Henry Clay, ...		Fatally injured by fall of coal at face of breast. Died same day.
Oct. 1	Joseph Glefakle, .....	Polish, .....	Miner, .....	54	M.	1	....	North Franklin, ..		Fatally injured by fall of coal at face of robbing. Died same day.
Nov. 28	Elmer Paul, .....	American, ....	Laborer, .....	35	M.	1	4	Burnside, .....	Northumberland.	Killed by fall of slate at face of robbing. Fatally injured by premature explosion of shot at face of robbing. Died November 20.
3	Peter Fedbig, .....	German, ....	Miner, .....	62	M.	1	....	Luke Fidler, ..		

TABLE 4. — Continued

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Nov. 8	John Lenker, .....	American...	Miner, .....	46	M.	1	2	Pack Ridge, ...	Northumberland.	Killed by fall of slate at face of robbing. Killed by premature explosion of shot at face of chute.
11	Andr. Bolonis, .....	Polish, .....	Miner, .....	45	M.	1	5	Corbin, .....		
13	Clarence Hoover, .....	American...	Mine foreman, .....	54	M.	1	1	Colbert, .....		
17	Victor Smeltz, .....	German, .....	Miner, .....	28	S.	...	...	Colbert, .....		
Dec. 4	Frank Beshel, .....	Bohemian...	Miner, .....	53	M.	1	4	North Franklin,		
20	And. Tarsock, .....	Polish, .....	Miner, .....	25	M.	1	...	Burnside, .....	Northumberland.	Killed by fall of slate at face of robbing. Killed by premature explosion. He tried to light two shots at the same time.
23	Leo Ritecowski, .....	Polish, .....	Miner, .....	24	M.	1	5	Corbin, .....		



TABLE 5.—Non-fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 8	William Black, .....	English, ....	Laborer, .....	49	M.	Cameron, .....	Northumberland.	Leg fractured. Struck by lump of frozen dirt that fell off bank. Outside.
9	Anth. Shernaspo, ....	Polish, .....	Miner, .....	28	M.	Corbin, .....		Shoulder fractured by shot fired in next breast which broke through the pillar.
Feb. 21	Philip Vesnifskite, ....	Polish, .....	Miner, .....	26	M.	Hickory Ridge, .....		Leg broken by fall of slate at face of breast.
4	John V. Ney, .....	American, ...	Miner, .....	34	M.	Stirling, .....		Hand and wrist lacerated by premature explosion of shot at face of chute.
March 2	Alex Zebruskie, .....	Polish, .....	Laborer, .....	26	S.	Bear Valley, .....		Leg fractured. Struck by a piece of slate that slid down from check battery while loading buggy on gangway.
7	Thomas Quirk, .....	American, ...	Machinist, .....	35	S.	Colbert, .....		Body bruised and arm cut. A pump toppled over on him while moving it on slope.
9	Thomas Sobel, .....	Polish, .....	Miner, .....	33	S.	Henry Clay, .....		Burned by explosion of gas near face of robbing. Gas was lighted with naked light.
11	(Alex Choker, .....	Polish, .....	Miner, .....	25	S.	Hickory Ridge, .....		Face and hands burned by explosion of gas at face of breast.
12	George Kanla, .....	Polish, .....	Miner, .....	32	S.	Luke Fidler, .....		Thigh fractured by fall of top slate while clearing it down at face of breast.
18	Louis Catach, .....	Hungarian, ...	Driver, .....	22	S.	Katherine, .....		Leg and three ribs fractured. Struck by empty mine car. Outside.
April 27	J. Baranvitz, .....	Polish, .....	Driver, .....	23	S.	Back Ridge, .....		Body bruised. Mule kicked him while putting the harness on him. Outside.
5	Cal. Nellig, .....	American, ...	Laborer, .....	52	S.	Cameron, .....		Leg fractured. Caught between mine cars while loading timber. Outside.
May 5	J. W. Berger, .....	American, ...	Timberman, .....	60	M.	Cameron, .....		Ribs fractured by flying timber. The chain broke while loaded dumpers were being hoisted. Outside.
15	Stanley Fatures, ....	Polish, .....	Bottomman, .....	17	S.	Luke Fidler, .....		Leg fractured by fall of clod while putting coal down the chute in breast.
19	Stanley Zeluskie, ....	American, ...	Miner, .....	23	M.	Cameron, .....		Arm torn off by a rope whirled in which he was caught in some unknown manner. He left his place of work in breaker. Outside.
June 8	Samuel Fryberger, ....	American, ...	Slatepicker, .....	14	S.	Henry Clay, .....		Side of leg fractured by fall of coal at face of robbing.
	James McGuirk, .....	American, ...	Miner, .....	51	M.	Hickory Swamp, .....		

TABLE 5. —Continued

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
June 10	Frank Rice, .....	Polish.....	Miner .....	30	M.	Luke Fidler, .....	Northumberland.	Toe crushed by fall of coal at face of robbing.
July 13	Wilson Kline, .....	American...	Repairman. ....	50	M.	North Franklin, .....		Leg fractured by fall of coal while lagging timber in airway.
24	Wally Bineuskie, ....	Polish.....	Miner, .....	26	M.	Corbin, .....		Back broken by fall of slate at face of work.
Aug. 11	Frank Picheoskie, ....	Polish.....	Miner, .....	52	M.	Henry Clay, .....		Arm broken and face cut by coal flying from blast at face of breast.
	A. B. Fisher, .....	American...	Starter, .....	63	M.	Katherine, .....		Foot bruised while trying to uncouple mine cars while they were in motion on gangway.
13	Jos. Valinskie, .....	American...	Timberman, ....	49	M.	Cameron, .....		Two fingers fractured by a piece of pipe rolling down the incline.
20	Simon Kurty, .....	Polish.....	Starter, .....	25	S.	Colbert, .....		Shoulder broken. Struck by a piece of coal that slid out of battery.
Sept. 13	Paul Poplaskie, .....	Russian,....	Miner, .....	49	M.	Hickory Ridge, .....		Face shattered at face of chute by explosion of an exploder that he had put in his month.
17	George Levan, .....	American...	Machinist, .....	58	M.	Luke Fidler, .....		Head injured. While oiling overhead machinery in shop he tripped and fell to the floor. Outside.
Oct. 6	Frank Shanok, .....	Polish.....	Laborer, .....	21	S.	Big Mountain, .....		Face and hands burned by gas. During the temporary absence of the miner, he went to face of chute with naked light and lighted the gas. Bruised.
11	Robert B. Olley, .....	American...	Loader, .....	37	M.	Corbin, .....		Head and hands burned. Struck by coal dumped from buggy at top of counter chute.
15	George Heim, .....	American...	Laborer, .....	21	S.	North Franklin, .....		Hand lacerated by explosion of dynamite cap, which he was carrying, at face of robbing.
15	Wally Dunsavage .....	Russian,....	Miner, .....	38	M.	Cameron, .....		Face burned by gas. He went back to face of breast with naked light, after firing a shot, and lighted the gas.
19	Jos. Mulki, .....	American...	Driver, .....	23	S.	Cameron, .....		Back and leg broken. He tried to jump on trip of cars on gangway and fell under them.

Oct.	20	Milton Eckrot, .....	American,...	Miner, .....	60	M. Colbert, .....	Arm broken by piece of rock that slipped out from gob at face of robbing.
	24	Charles Schlegel, .....	American,...	Fireman, .....	43	M. Cameron, .....	Leg broken by material flying from a boiler explosion. Outside.
	28	Edward Clarke, .....	American,...	Conductor, .....	18	S. Bear Valley, .....	Foot crushed. He jumped off motor coming out of gangway and his foot was caught under wheel.
	30	John Gurgy, .....	Polish,.....	Laborer, .....	27	M. Katherine, .....	Back bruised by fall of coal at face of gangway.
Nov.	3	Emery Macaren, .....	American,...	Laborer, .....	24	S. Bear Valley, .....	Ribs fractured by fall of coal in chute.
	29	Benjamin Davis, .....	American,...	Electrician, .....	45	M. Hickory Ridge, .....	Leg and two ribs fractured while putting up a pole, the fastening slipped and pole fell on him. Outside.
Dec.	6	Felix Feese, .....	American,...	Miner, .....	61	M. Hickory Swamp, .....	Two fingers blown off and hand lacerated by explosion of dynamite caps. The caps were tight in his cap box, and to make them loose he struck the box against a rail.
	9	Joseph Mitchell, .....	Polish,.....	Runner, .....	18	S. Henry Clay, .....	Collar bone fractured. Struck by car that jumped off the track. Outside.
	12	John Makabagan, .....	Slavonian,...	Chargeman, .....	33	M. Buck Ridge, .....	Face and hands burned by explosion of gas and fall of timberway. He went to face with naked light.
	14	John Poncenskie, .....	Russian, .....	Miner, .....	45	M. Corbin, .....	Leg fractured by falling over a lump of coal at face of robbing while trying to get away from a threatened fall of top.
	21	George M. Kline, .....	American,...	Foreman, .....	55	M. Katherine, .....	Three ribs fractured. Struck by rock dumper at foot of rock plane. Outside.
	23	Thomas O'Brien, .....	American,...	Driver, .....	22	S. Bear Valley, .....	Top of finger cut off. While hitching spreader to car on gangway, the mule started and his finger was caught by spreader.
	29	James McGinnis, .....	American,...	Driver, .....	23	S. Katherine, .....	Leg fractured by falling under cars while attempting to jump on moving cars on rock bank. Outside.
	30	Angelo Sando, .....	Italian,.....	Brattiesman, .....	23	M. Hickory Ridge, .....	Face and hands burned by gas. He went into an old breast with naked light and lighted small body of gas.

Northumber-  
land.

## CONDITION OF COLLIERIES

## PHILADELPHIA AND READING COAL AND IRON COMPANY

North Franklin, Bear Valley, Stirling, Henry Clay and Big Mountain Collieries.—Ventilation, drainage and condition as to safety, good.

Burnside Colliery.—Ventilation and drainage, good. Condition as to safety, fair.

## SUSQUEHANNA COAL COMPANY

Cameron, Luke Fidler, Hickory Ridge and Hickory Swamp Collieries.—Ventilation, drainage and condition as to safety, fair.

## SHIPMAN COAL COMPANY

Colbert Colliery.—Ventilation and condition as to safety, fair. Drainage poor.

## EXCELSIOR COAL COMPANY

Corbin Colliery.—Ventilation, drainage and condition as to safety, fair.

## BUCK RIDGE COAL MINING COMPANY

Buck Ridge Colliery.—Ventilation good. Drainage and condition as to safety, fair.

## TREVORTON COLLIERY COMPANY

Katherine Colliery.—Ventilation and drainage, fair. Condition as to safety, good.

## IMPROVEMENTS

## PHILADELPHIA AND READING COAL AND IRON COMPANY

North Franklin Colliery.—An electric haulage system was installed in the first lift of the Short slope. An ash-wash system was installed in the boiler house for handling the ashes.

Bear Valley Colliery.—Tunnels were driven as follows: One 117 feet long in the second lift of No. 2 underground slope from No. 5 to No. 4 vein; one 110 feet long in the first lift of No. 2 underground slope from No. 5 to No. 4 vein; one 152 feet long in the rock slope from No. 8½ to No. 9 vein; one 524 feet long from foot of rock slope to No. 7 vein; one 164 feet long in rock slope from No. 8½ to No. 9 vein; also air tunnel 109 feet long in rock slope from No. 8½ to No. 9 vein; and air tunnel 381 feet long in rock slope from No. 10 to 8½ vein.

An electric haulage system 3,000 feet long was installed in rock slope; also electric hoist installed at rock slope.

A concrete arch 102 feet long was built at top of rock slope.

Burnside Colliery.—A tunnel 91 feet long was driven in the third lift shaft section from No. 9 to No. 8 vein.

A miner's washhouse 25 by 43 feet was built of concrete and brick and equipped with shower baths and lockers.

Stirling Colliery.—A tunnel 427 feet long was driven in No. 3 underground slope, first lift, from No. 5 to No. 7 vein.

Henry Clay Colliery.—A new refuse plane was built from breaker.

Big Mountain Colliery.—A tunnel 185 feet long was driven in water level from No. 5 to No. 4 vein.

#### SUSQUEHANNA COAL COMPANY

Cameron Colliery.—Tunnels were driven as follows: One, 5 by 6 feet, and 40 feet long in the east drift from No. 5 to No. 4 vein; one 40 feet long in No. 1 slope from No. 5 to No. 6 vein; one 160 feet long in east drift from No. 4 to No. 4 vein to connect the vein that had parted; one 47 feet long in the west drift from No. 8 to No. 5 vein; and one 175 feet long in No. 3 slope from No. 5 to No. 8 vein.

Luke Fidler Colliery.—A tunnel 250 feet long was driven in No. 1 shaft from No. 4 vein north dip to No. 4 vein south dip.

Hickory Ridge Colliery.—An electric light line 4,100 feet long was erected between the colliery and No. 6 slope, and the colliery will soon be supplied with electric lights.

No. 1 tunnel was skipped 6 feet for a distance of 150 feet.

#### SHIPMAN KOAL COMPANY

Colbert Colliery.—A tunnel 285 feet long was driven from No. 9½ to No. 11 vein; tunnel 65 feet long from No. 5 to No. 4 vein; and tunnel 350 feet long from No. 8 to No. 4 vein.

A bore hole was sunk from the surface to No. 5 vein for return of breaker water.

Two 8-ton Whitcomb gasoline motors were installed from main haulage.

A slope was sunk 300 feet in No. 5 vein connecting first level east and shaft level.

Outside: A new steel frame boiler house was erected, containing three sets of B. and W. Stirling boilers complete.

One new air compressor was installed.

The shaft engines were moved to a new foundation and a new engine house erected.

#### BUCK RIDGE COAL MINING COMPANY

Buck Ridge Colliery.—An underground slope has been sunk in No. 1 slope workings, in the No. 5 vein, a distance of 300 feet.

A rock airway has been driven 300 feet to the surface.

#### MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in Shamokin, May 18 and 19. The Board of Examiners was composed of P. J.

Friel, Mine Inspector, Shamokin; Edward Brennan, Superintendent, Shamokin; Alexander Bradley, Miner, Shamokin; Nicholas Davis, Miner, Shamokin.

The following persons passed a satisfactory examination and were granted certificates:

#### MINE FOREMEN

George W. Lewis, Charles H. Eyster, Jesse C. Hoover, Shamokin; Oliver Tasker, Sagon.

#### ASSISTANT MINE FOREMEN

George E. Sullivan, Howard Bixler, John Fleming, John Donnelly, Shamokin; Joseph Yeziorskie, Peter Yojo, Ranshaw.



## SEVENTEENTH DISTRICT

CARBON AND SCHUYLKILL COUNTIES

Lansford, Pa., February 28, 1916.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor of transmitting herewith my annual report as Inspector of Mines of the Seventeenth Anthracite District, for the year ending December 31, 1915.

Respectfully submitted,

ISAAC M. DAVIES,

Inspector.

## SUMMARY OF STATISTICS

Number of collieries, .....	10
Number of mines, .....	44
Number of mines in operation, .....	44
Number of tons of coal shipped to market, .....	4,100,675
Number of tons used at mines for steam and heat, .....	576,864
Number of tons sold to local trade and used by employes, .....	30,382
Number of tons produced, .....	4,707,921
Number of tons produced by compressed air machines, ..	.....
Number of tons produced by electrical machines, ....	.....
Number of persons employed inside of mines, .....	6,406
Number of persons employed outside, .....	2,946
Number of fatal accidents inside of mines, .....	21
Number of fatal accidents outside, .....	7
Number of non-fatal accidents inside of mines, .....	14
Number of non-fatal accidents outside, .....	3
Number of tons of coal produced per fatal accident inside, .....	224,187
Number of tons produced per fatal accident outside, ...	672,560
Number of tons produced per fatal accident inside and outside, .....	168,140
Number of persons employed per fatal accident inside, ..	305
Number of persons employed per fatal accident outside, ..	421
Number of persons employed per fatal accident inside and outside, .....	334
Number of persons employed per non-fatal accident inside, .....	458
Number of persons employed per non-fatal accident outside, .....	982
Number of persons employed per non-fatal accident inside and outside, .....	550
Number of wives made widows, .....	13
Number of children made orphans, .....	30
Number of steam locomotives used inside of mines, ....	.....
Number of steam locomotives used outside, .....	51
Number of compressed air locomotives used inside, ....	2
Number of compressed air locomotives used outside, ....	.....
Number of electric motors used inside, .....	81
Number of electric motors used outside, .....	.....
Number of gasoline locomotives used inside, .....	.....
Number of fans in use, .....	22
Number of furnaces in use, .....	.....
Number of gaseous mines in operation, .....	20
Number of non-gaseous mines in operation, .....	24
Number of new mines opened, .....	2
Number of old mines abandoned, .....	4

TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
Lehigh Coal and Navigation Company, .....	4,094,662
Coxe Brothers and Company, Inc., .....	319,933
Estate A. S. Van Wickle, .....	264,352
Evans Colliery Company, .....	25,644
Elmer Neyer, .....	3,330
Total, .....	<u>4,707,921</u>

## Production by Counties

Carbon, .....	2,921,026
Schuylkill, .....	1,786,895
Total, .....	<u>4,707,921</u>

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total								
Lehigh Coal and Navigation Co., .....	19	7	26	13	2	15	214,974	5,645	2,507	8,152	297	353	434	1,253
Coxe Brothers, and Co., Inc., .....	1	.....	1	.....	.....	.....	319,823	299	175	474	299	.....	.....	.....
Estate A. S. Van Wickie, .....	.....	.....	.....	1	.....	1	254,352	408	219	627	.....	.....	.....	.....
Evans Colliery Co., .....	1	.....	1	.....	1	1	25,644	49	41	90	49	.....	219	41
Miscellaneous Companies, .....	.....	.....	.....	.....	.....	.....	.....	5	4	9	.....	.....	.....	.....
Totals and averages, .....	21	7	28	14	3	17	339,280	6,406	2,946	9,352	305	421	458	982

TABLE C.—Causes of Fatal Accidents Inside and Outside of Mines

	Months												Totals	Percentages
	January	February	March	April	May	June	July	August	September	October	November	December		
Inside														
Falls of coal, .....				2				1					1	4.76
Falls of roof, .....									1	1			4	19.03
Mine cars, .....				1									1	4.76
Explosions of gas, ....					1								1	4.76
Suffocation by gas, etc.										3			3	14.29
Blasts, premature and otherwise, .....								1			1		2	9.52
Falling into slopes, etc., .....	1	1										1	3	14.29
Crushed at batteries, ..				1									1	4.76
Falling into sump, ....	1					1							1	4.76
Electricity, .....							1				1		3	14.29
Rush of coal, .....		1											1	4.76
Totals, .....	2	2		4	1	1	1	2	1	1	2	1	21	100.00
Outside														
Cars, .....				1					1				2	28.57
Machinery, .....			1										1	14.29
Suffocation in chutes, etc., .....				1									1	14.29
Scalded by steam, ....	1						1						1	14.29
Spool of rope rolled on him, .....														
Struck by shaft guide, ..			1					1					1	14.29
Totals, .....	1		2	2				1	1				7	100.00
Grand totals inside and outside, .....	3	2	2	6	1	1	1	3	2	2	2	1	28	.....

TABLE D.—Causes of Non-Fatal Accidents Inside and Outside of Mines

	Months												Totals	Percentages
	January	February	March	April	May	June	July	August	September	October	November	December		
Inside														
Falls of coal, .....	...	1	...	...	...	...	...	...	...	1	...	...	2	14.29
Mine cars, .....	...	...	...	...	...	...	...	...	1	1	...	...	2	14.29
Explosions of gas, .....	...	...	...	...	1	...	...	...	...	...	1	...	4	28.57
Blasts, premature and otherwise, .....	2	...	...	1	...	...	...	...	...	...	1	1	5	35.71
Falling, .....	1	...	...	...	...	...	...	...	...	...	...	...	1	7.14
Totals, .....	3	1	...	1	1	...	2	...	1	2	1	2	14	100.00
Outside														
Machinery, .....	1	...	...	...	...	...	...	...	...	...	...	...	1	33.33
Struck by timber, .....	...	...	...	...	...	...	...	...	1	...	...	...	1	33.33
Struck by pump, .....	...	...	...	...	...	...	...	...	...	...	1	1	1	33.34
Totals, .....	1	...	...	...	...	...	...	...	1	...	...	1	3	100.00
Grand totals inside and outside, .....	4	1	...	1	1	...	2	...	2	2	1	3	17	.....

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months											
	January	February	March	April	May	June	July	August	September	October	November	December
<b>Inside</b>												
Miners, .....		2		2	1		1	2		2	1	
Miners' laborers, .....				2		1				1	1	
Drivers and runners, .....									1			1
Company men, .....	2											
<b>Totals, .....</b>	<b>2</b>	<b>2</b>		<b>4</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>4</b>	<b>2</b>	<b>1</b>
<b>Outside</b>												
Blacksmiths and carpenters, ..				1								
Machine bosses, .....	1											
Company men, .....			1									
Electricians, .....			1									
Laborers, .....				1								
Loader bosses, .....								1				
Drivers, .....									1			
<b>Totals, .....</b>	<b>1</b>		<b>2</b>	<b>2</b>				<b>1</b>	<b>1</b>			
<b>Grand totals inside and outside, .....</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>6</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>1</b>

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months											
	January	February	March	April	May	June	July	August	September	October	November	December
<b>Inside</b>												
Miners, .....				1	1		1			1	1	1
Miners' laborers, .....	1						1					
Drivers and runners, .....										1		
Doorboys and helpers, .....									1			
Company men, .....		1										1
Timbermen, .....	1											
Machine runners, .....	1											
<b>Totals, .....</b>	<b>3</b>	<b>1</b>		<b>1</b>	<b>1</b>		<b>2</b>		<b>1</b>	<b>2</b>	<b>1</b>	<b>2</b>
<b>Outside</b>												
Slatepickers (boys), .....	1											
Laborers, .....									1			1
<b>Totals, .....</b>	<b>1</b>								<b>1</b>			<b>1</b>
<b>Grand totals inside and outside, .....</b>	<b>4</b>	<b>1</b>		<b>1</b>	<b>1</b>		<b>2</b>		<b>2</b>	<b>2</b>	<b>1</b>	<b>3</b>



TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
American .....	1	1	1	1	....	....	....	2	1	....	....	....	7
English, .....	....	....	....	....	....	....	....	....	....	1	....	....	1
Polish, .....	1	1	....	1	....	....	....	....	....	1	....	....	4
Italian, .....	....	....	....	....	....	....	....	....	1	....	....	....	1
Slavonian, .....	....	....	....	2	....	1	....	....	....	....	....	....	3
Lithuanian, .....	....	....	....	1	1	....	....	1	....	....	....	....	3
Austrian, .....	....	....	....	....	....	....	1	....	....	....	1	....	2
Russian, .....	....	....	....	1	....	....	....	....	....	....	....	....	1
Greek, .....	1	....	....	....	....	....	....	....	....	....	....	....	1
Totals, .....	3	2	2	6	1	1	1	3	2	4	2	1	28

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
American, .....	2	....	....	1	....	....	2	....	....	....	1	1	5
Polish, .....	....	....	....	....	....	....	....	....	....	....	....	....	2
Italian, .....	1	1	....	....	....	....	....	....	....	....	....	....	2
Slavonian, .....	1	....	....	....	....	....	....	....	1	1	....	1	4
Lithuanian, .....	....	....	....	....	1	....	....	....	1	....	....	....	3
Greek, .....	....	....	....	....	....	....	....	....	....	....	....	1	1
Totals, .....	4	1	....	1	1	....	2	....	2	2	1	3	17

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
<b>Lehigh Coal and Navigation Co.</b>															
Xesquehoning Colliery:	Tunnel, ...	Gaseous, ...	Fan, ...	24.0	7.0	6.0	90	2.5	Guibal, ...	Steam, ...	19	165,718	104,111	*	348
Number 1, ...	Shaft, ...	Gaseous, ...	Natural, ...	21.7	7.0	3.3	60	1.4	Guibal, ...	Steam, ...	19	267,695	216,819	333,034	439
Number 2, ...	Drift, ...	Gaseous, ...	Fan, ...	24.0	7.0	6.0	90	2.5	Guibal, ...	Steam, ...	1	5,973	5,973	6,302	17
Number 1, ...	Tunnel, ...	Gaseous, ...	Natural, ...	...	...	...	...	...	...	...	4	24,530	19,240	*	29
Summit, ...															
<b>Lansford Colliery:</b>															
Number 4, ...	Shaft, ...	Gaseous, ...	Fan, ...	24.0	8.0	7.0	86	2.0	Sturtevant, ...	Electricity, ...	6	89,640	89,640	89,659	256
Number 4, West Barrier, ...	Slope, ...	Gaseous, ...	Fan, ...	9.0	3.0	0.7	168	2.5	Sirocco, ...	Electricity, ...	2	26,156	26,156	26,201	68
Number 5, ...	Shaft, ...	Gaseous, ...	Fan, ...	10.0	5.0	0.8	108	1.3	Sirocco, ...	Electricity, ...	2	35,490	35,490	35,515	108
Number 4, Black Rock, ...	Slope, ...	Gaseous, ...	Fan, ...	...	...	...	...	...	...	...	2	39,686	39,686	439,190	158
Number 5, ...	Shaft, ...	Gaseous, ...	Fan, ...	21.0	7.0	6.6	49	1.1	Guibal, ...	Steam, ...	2	25,750	25,750	25,755	92
Number 6, ...	Shaft, ...	Gaseous, ...	Fan, ...	22.0	8.0	6.0	87	1.4	Guibal, ...	Steam, ...	2	21,930	21,930	21,960	59
Number 6, ...	Shaft, ...	Gaseous, ...	Natural, ...	...	...	...	...	...	...	...	1	65,601	60,607	66,534	206
<b>Coaldale Colliery:</b>															
Number 8, ...	Shaft, ...	Gaseous, ...	Fan, ...	24.0	8.0	6.0	70	1.2	Guibal, ...	Steam, ...	4	56,358	50,358	79,034	228
Number 8, ...	Slope, ...	Gaseous, ...	Fan, ...	42.0	4.0	4.0	80	1.2	Sturtevant, ...	Steam, ...	1	28,329	20,250	28,590	16
Number 9, ...	Shaft, ...	Gaseous, ...	Fan, ...	20.0	8.0	6.0	84	1.8	Sturtevant, ...	Steam, ...	9	90,792	90,000	99,271	262
Springdale, ...	Tunnel, ...	Non-gas, ...	Fan, ...	7.0	2.6	10.0	95	0.3	American Blower.	Steam, ...	1	28,380	25,124	111,000	21

\*Not reported.

†Air lost on way to Outlet through old mine breaches.





TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employees	Total production of coal in tons	Number of days worked	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Leligh Coal and Navigation Co.	Carbon,	818,045	69,405	6,368	893,813	253	1,564	4	1	.....	283,979	116,821	50
Nesquehoning,	Carbon,	143,973	143,973	875	954,326	239	2,232	9	10	.....	288,373	117,981	51
Lansford,	Carbon,	890,488	60,017	2,457	742,797	242	1,470	2	.....	.....	186,150	114,789	59
Coaldale,	Carbon,	680,323	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Greenwood,	Schuylkill,	346,776	37,893	4,267	388,995	290	807	4	1	.....	105,360	47,841	25
Rain,	Schuylkill,	401,832	57,435	88	459,366	250	935	4	.....	.....	130,001	40,097	30
Tamaqua,	Schuylkill,	231,235	61,421	259	392,915	249	896	3	3	.....	193,789	41,882	2
.....	Schuylkill,	3,387,699	430,145	14,314	3,832,153	.....	7,901	26	15	.....	1,137,632	482,411	247
Washeries	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Coaldale,	Schuylkill,	37,921	13,269	.....	50,490	79	134	.....	.....	.....	50	4,425	3
Greenwood,*	Schuylkill,	.....	.....	.....	.....	.....	61	.....	.....	.....	.....	.....	.....
Hauto,	Carbon,	132,337	55,882	3,735	212,011	273	61	.....	.....	.....	.....	8,000	1
.....	.....	.....	.....	.....	.....	.....	248	.....	.....	.....	50	12,425	4
Totals,	.....	189,553	69,131	3,795	262,504	.....	8,152	26	15	.....	1,137,682	494,836	251
Coxe Brothers and Co., Inc.	.....	3,577,257	499,206	13,109	4,094,662	.....	.....	.....	.....	.....	.....	.....	.....
Beaver Meadow,	Carbon,	295,558	20,029	4,346	319,333	246	474	1	.....	.....	188,125	.....	35
Estate A. S. Van Winkle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Coleraine,	Carbon,	210,746	49,401	4,115	264,352	301	627	.....	1	.....	79,275	.....	64

\*Coal prepared at Rahm.

TABLE 2.—Continued

Names of Operators and Collieries	County	Number of horses and mules		
		Explosives	Number of pounds of permissible explosives used	
			Number of pounds of dynamite used	
			Number of pounds of powder used	
Evans, .....	Carbon, .....		5	35
Evans Colliery Co. ....	Carbon, .....		24,325	700
Black Rock, .....	Carbon, .....		300	495,536
Elmer Neyer .....	Carbon, .....		1	17
Grand totals, .....	Carbon, .....		1	28
Number of non-fatal accidents			90	9,353
Number of fatal accidents			173	165
Number of employees			25,644	3,330
Number of days worked			530	4,767,821
Total production of coal in tons			8,000	48
Number of tons sold to local trade and used by employees			17,114	4,100,675
Number of tons used at collieries for steam and heat			48	576,864
Number of tons of coal shipped to market			17,114	4,100,675



TABLE 2.—Part 2  
Number and kinds of boilers and locomotives in use, number of steam engines, pumps, electric dynamos and air compressors in use, etc.

Names of Operators	County	Number of Boilers				Locomotives				Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors	
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Gasoline	Steam	Air								Electric
Lehigh Coal and Navigation Co.	{ Carbon, ..... }	3	186	50	22,472	22,658	...	41	...	81	102	33,944	26	57,859	11,279	11	10
Coxe Brothers and Co., Inc.	{ Schuylkill, ... }	...	...	8	2,000	2,000	...	4	2	...	20	1,750	1	1,200	1,100	1	2
Estate A. S. Van Winkle	Carbon, .....	...	...	18	2,150	2,150	...	6	...	...	36	1,340	...	7,347	2,465	1	...
Evans Colliery Co., .....	Carbon, .....	...	...	1	700	700	...	...	...	...	6	187	5	3,000	1,600	...	...
Elmer Neyer, .....	Carbon, .....	...	...	...	35	35	...	...	...	...	...	30	...	...	...	...	...
Totals, .....	.....	3	186	119	27,357	27,543	...	51	2	81	166	37,219	39	69,406	16,425	13	12

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside										Outside								Grand total		
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers, and clerks	All other employes	Total outside	
Lehigh Coal and Navigation Co., .....	{ Carbon, .....	23	22	59	1,608	404	216	63	13	2,042	1,195	5,645	4	17	230	257	132	196	40	1,621	2,507	8,152
Coxe Brothers and Co., Inc., .....	{ Schuylkill, ..	1	4	...	199	45	14	6	1	7	22	299	...	1	13	14	34	10	4	99	175	474
Estate A. S. Van Winkle, .....	Carbon, .....	1	3	...	147	131	27	3	6	68	19	403	...	4	4	19	25	22	7	8	132	219
Evans Colliery Co., .....	Carbon, .....	...	...	...	21	14	3	...	3	7	...	49	...	1	2	6	20	2	...	10	41	90
Elmer Neyer, .....	Carbon, .....	...	...	...	2	3	...	...	...	...	...	5	...	...	...	1	...	...	...	3	4	9
Totals, .....	.....	26	29	62	1,977	597	260	72	23	2,124	1,235	6,406	5	23	264	314	298	215	52	1,865	2,946	9,352



TABLE 4.—Fatal accidents inside and outside of mines

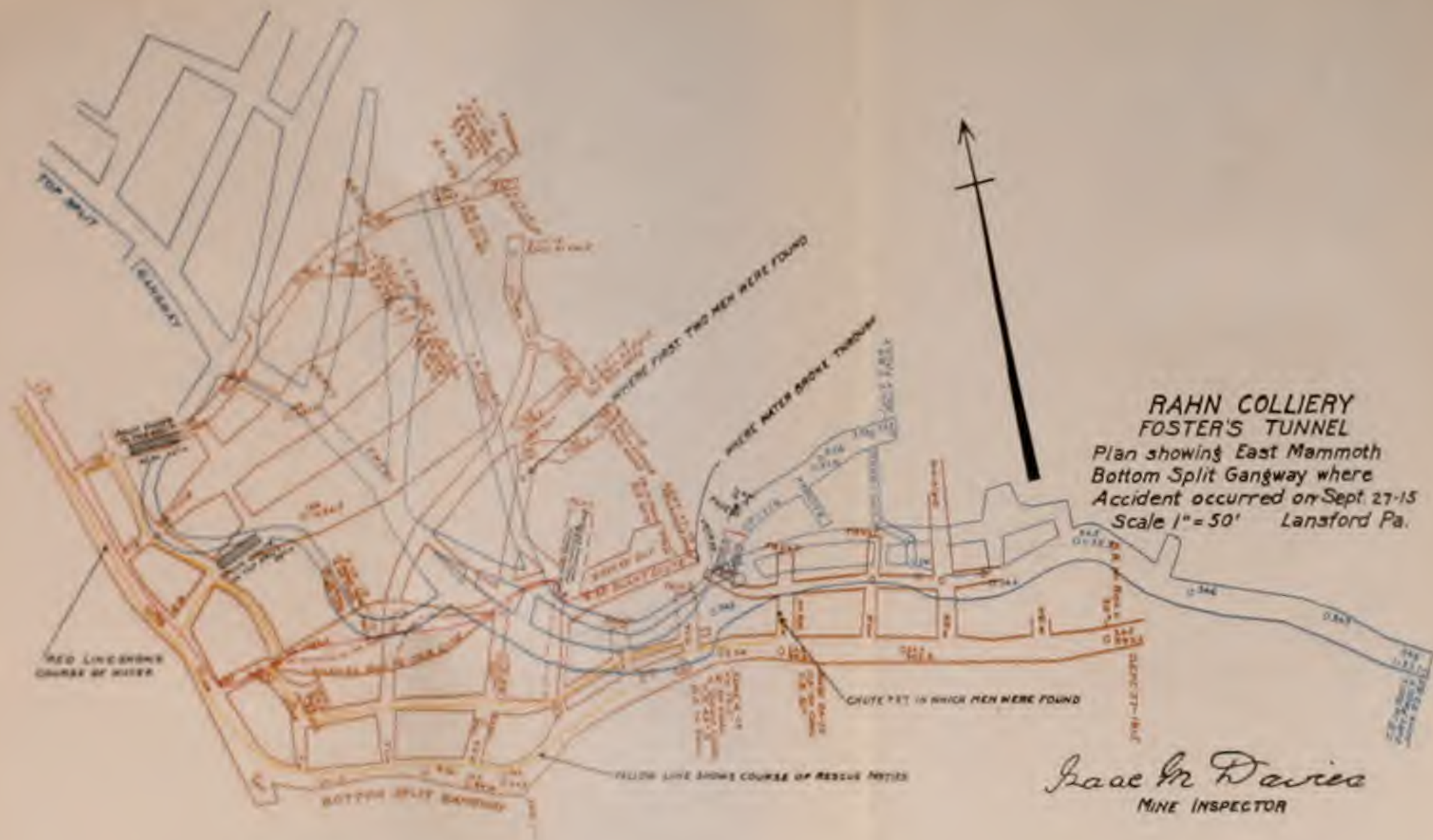
Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 5	Paul Pristock, .....	Greek, .....	Company man, ..	22	S.	...	...	Rahn, .....	Schuylkill, ....	Killed by falling into chute, breaking his neck.
19	Oscar Strohl, .....	American, .....	Machine boss, ..	24	M.	1	1	Nesquehoning, ..	Carbon, .....	Fatally scalded by escaping boiler steam. Outside.
28	John Wood, .....	Polish, .....	Company man, ..	28	S.	...	...	Lansford, .....	Carbon, .....	Killed by falling on electric wire.
Feb. 17	Joe Kolesky, .....	Polish, .....	Miner, .....	23	S.	...	...	Lansford, .....	Carbon, .....	Suffocated by rush of fine coal in chute.
19	Peter Pavlisim, .....	American, .....	Miner, .....	46	M.	1	8	Rahn, .....	Schuylkill, ....	Killed by falling down a pump-way.
March 3	Peter Romane, .....	Italian, .....	Company man, ..	19	S.	...	...	Lansford, .....	Carbon, .....	Killed by a spool of rope falling on him.
27	Joseph Breslin, .....	American, .....	Electrician, ...	25	S.	...	...	Nesquehoning, ..	Carbon, .....	Killed by falling into top elevator. His body was found on shaker. Outside.
April 8	John Sagers, .....	American, ..	Carpenter, ....	54	W.	...	1	Nesquehoning, ..	Carbon, .....	Head crushed between cars. Outside.
11	Tony Raha, .....	Russian, .....	Laborer, .....	42	M.	...	...	Rahn, .....	Schuylkill, ....	Suffocated in ash chute.
14	George Cucarro, .....	Slovakian, ..	Miner, .....	38	M.	1	5	Evans, .....	Carbon, .....	Killed by fall of roof at face of breast.
29	Alfred Szosko, .....	Polish, .....	Laborer, .....	22	S.	...	...	Lansford, .....	Carbon, .....	Killed by being caught between gangway leg and car.
29	Joe Marcavage, .....	Lithuanian, ..	Miner, .....	46	M.	1	4	Tamaqua, .....	Schuylkill, ....	Killed by having his head caught by rock in battery.
	Steve Sernka, .....	Slavonian, ...	Laborer, .....	47	M.	1	...	Lansford, .....	Carbon, .....	Killed by fall of rock near face of gangway.
May 19	Andy Liench, .....	Lithuanian, ..	Miner, .....	36	S.	...	...	Tamaqua, .....	Schuylkill, ....	Fatally injured by an explosion of gas in battery. Died the following day.
June 5	Mike Ulfjanic, .....	Slavonian, ...	Laborer, .....	35	M.	1	3	Greenwood, .....	Schuylkill, ....	Fatally injured by falling into sump. Died the following day.
July 23	Metro Teer, .....	Austrian, ..	Miner, .....	38	M.	1	2	Coaldale, .....	Schuylkill, ....	Instantly killed either by electric shock or apoplexy.
Aug. 8	Robert Weaver, .....	American, ..	Louder boss, ...	25	M.	1	...	Greenwood, .....	Schuylkill, ....	Killed by being struck by shaft guide. Outside.
9	Jos. Vintzeavage, .....	Lithuanian, ..	Miner, .....	26	M.	1	1	Tamaqua, .....	Schuylkill, ....	Killed by premature blast at face of breast.
17	Daniel West, .....	American, ...	Miner, .....	22	M.	1	...	Rahn, .....	Schuylkill, ....	Killed by fall of coal at face of breast.
Sept. 10	Walter Herron, .....	American, ...	Runner, .....	20	S.	...	...	Greenwood, .....	Schuylkill, ....	Killed by cars. Outside.
28	Max Hicolshi, .....	Italian, .....	Driver, .....	18	S.	...	...	Coaldale, .....	Schuylkill, ....	Killed by fall of roof near face of tunnel.
Oct. 2	Nick Neatch, .....	Polish, .....	Laborer, .....	20	S.	...	...	Lansford, .....	Carbon, .....	Killed by fall of roof in gangway.

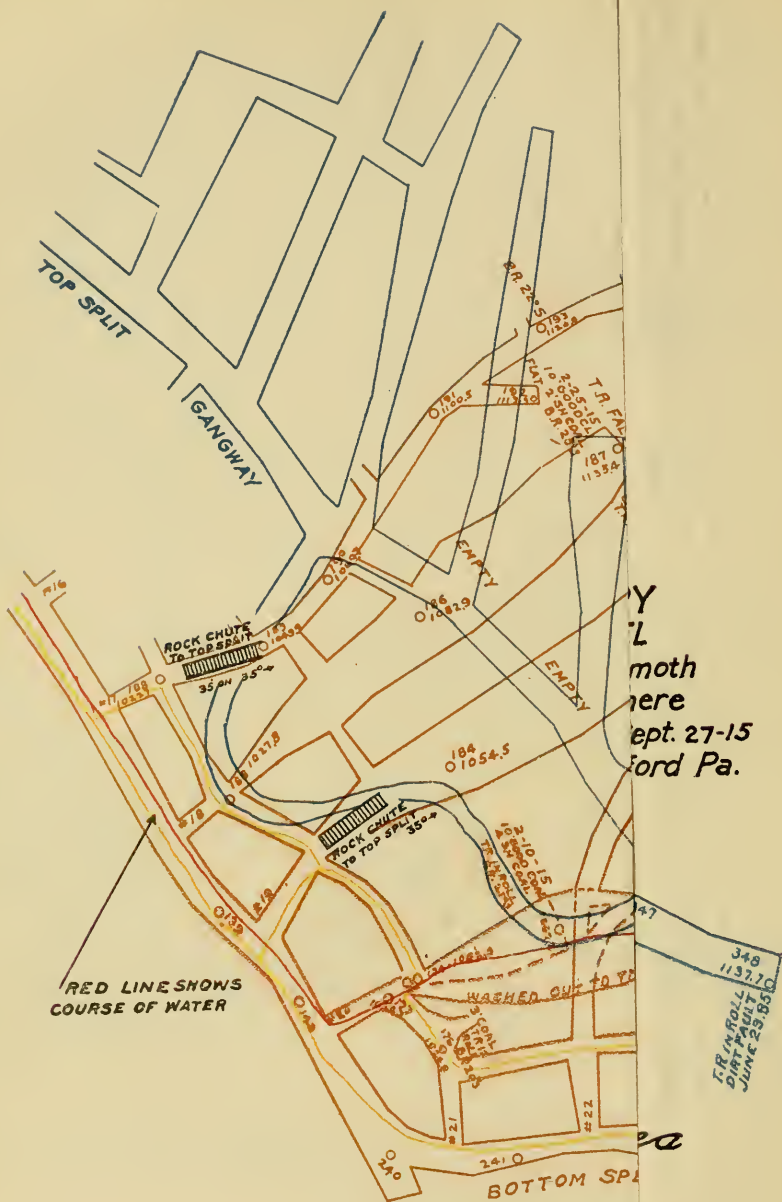


TABLE 5.—Non-fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 14	John Tarapeak, .....	American, ..	Statepicker, .....	15	S.	Evans, .....	Carbon, .....	Leg crushed in rolls and afterwards amputated. Outside.
	Albert Selesco, .....	American, ..	Chargeman, .....	35	M.	Lansford, .....	Carbon, .....	Face and body injured by premature blast.
	Charles Lawrence, ..	Italian, .....	Machine runner, ..	23	M.	Lansford, .....	Carbon, .....	Face and body injured by premature blast.
Feb. 18	Mike Bosia, .....	Slavonian, ..	Laborer, .....	23	S.	Coleraine, .....	Carbon, .....	Arm broken by falling on buggy road.
	Angelo Chiska, .....	Italian, .....	Company man, .....	27	M.	Lansford, .....	Carbon, .....	Spine fractured by piece of coal that fell from roof at timber wharf.
April 15	William Burrell, .....	American, ..	Miner, .....	35	M.	Tamaqua, .....	Schuykill, .....	Head and face injured by explosion of blast.
May 19	Enoch Ambrosio, .....	Lithuanian, ..	Miner, .....	28	S.	Tamaqua, .....	Schuykill, .....	Head and face injured by explosion of blast.
July 14	Martin Pilla, .....	Polish, .....	Miner, .....	26	M.	Lansford, .....	Carbon, .....	Hands and face burned by explosion of gas.
	Valent Stanock, .....	Polish, .....	Laborer, .....	21	S.	Lansford, .....	Carbon, .....	Hands and face burned by explosion of gas.
Sept. 9	Mox Dominic, .....	Slavonian, ..	Smith helper, .....	26	S.	Nesquehoning, ..	Carbon, .....	Pelvis fractured by cars.
	George Yesnisky, ....	Lithuanian, ..	Laborer, .....	62	S.	Tamaqua, .....	Schuykill, .....	Leg fractured while unloading timber on timber wharf. Outside.
Oct. 11	Mike Lane, .....	Slavonian, ..	Runner, .....	23	M.	Lansford, .....	Carbon, .....	Knee fractured while caving a car.
12	George Martin, .....	Lithuanian, ..	Miner, .....	53	M.	Greenwood, .....	Schuykill, .....	Body injured by fall of coal at face of breast.
Nov. 26	Charles Richards, ....	American, ..	Miner, .....	30	M.	Lansford, .....	Carbon, .....	Head injured by blast that came through from next chute.
Dec. 2	Crice Povel, .....	Slavonian, ..	Laborer, .....	52	W.	Lansford, .....	Carbon, .....	Hand crushed while removing a pump. Outside.
11	Mike Fell, .....	Greek, .....	Miner, .....	37	M.	Lansford, .....	Carbon, .....	Breast crushed by flying particles from a shot.
17	Den Bowman, .....	American, ..	Company man, .....	26	M.	Lansford, .....	Carbon, .....	Hands and face burned by explosion of gas.







## FOSTER'S TUNNEL MINE ACCIDENT

On September 27, 1915, eleven men were entombed in the East Mammoth vein bottom split gangway off Foster's Tunnel, a water level opening of the Lehigh Coal and Navigation Company, situated on the southwest boundary line of Coaldale Borough, Schuylkill County, by a sudden rush of water from the East Mammoth top split gangway, an abandoned working.

The East Mammoth top split gangway was opened off the Old Dry Hollow No. 6 slope and was driven east for a distance of 1,450 feet where it was stopped on account of the vein running into fault. The elevation of the gangway is 1,140 feet and the average dip of the vein 38 degrees, south.

The East Mammoth bottom split gangway was opened off Foster's (water level) Tunnel and has been driven east 1,350 feet where the present face is located. The elevation of the gangway is 997 feet. It was in this gangway the men were entombed, the water and debris having rushed from the East Mammoth top split gangway, 1,140 feet elevation.

It might be well to note that the East Mammoth top split gangway, off Foster's Tunnel, at an elevation of 1,007 feet, has been worked and the breasts broke through into the East Mammoth top split gangway from where the water, which closed the bottom split gangway, came. No trouble was experienced with water in any of these breasts.

In slant chute No. 24 the water broke through at eleven o'clock on the morning of September 27 after a shot had been fired by William Watkins and Gint Hollywood, two competent miners, who were engaged in driving the slant chute. Both men managed to work their way amid the water and debris down the slant chute to a crosscut into and up No. 23 chute where they were entombed for 22 hours.

The volume of water made its course from the old gangway down No. 24 slant chute, gutting it out as it went, breaking down the pillars between Nos. 24 and 20 and violently rushing out No. 20 breast, which was enlarged to practically three times its normal size. Thence it went down No. 20 chute into the gangway and then proceeded to the mouth of the tunnel. In its course the water picked up timber, rocks, coal and fine material sufficient to close compactly the gangway from No. 19 chute to No. 25 chute approximately a distance of 300 feet.

Upon being notified of the accident, General Inside Superintendent W. G. Whildin and Mine Inspector I. M. Davies immediately went into consultation and under their supervision rescue parties and plans for re-opening the gangway were promptly formed and put into operation.

Three parties were formed and definite work assigned to each, one party to open a narrow opening on the top of the gangway, another party to open the airway or monkey gangway, and a third party to follow the first party in re-opening the gangway to its full width. The party which was opening the gangway to its full width started at No. 3 chute and cleaned up such material as was carried by the water in its course towards the tunnel mouth. The party which worked the upper lift of the gangway started at chute No. 19 and opened a hole 3 by 4 feet along the south rib. This work was tedious and slow, due to the extreme difficulties which were encountered along the gang-



way. Between chutes Nos. 20 and 21 the progress was impeded by striking a steel mine car and truck. By means of an acetylene torch enough of the car was cut away to permit the men to follow the north rib and proceed with the work. At the time the men were rescued this party had advanced very close to chute No. 25 where the mules were encountered amid old timber, rock, coal and other debris. The party which advanced along the airway started at chute No. 19 proceeded thence to No. 20 where it was found that the pillars had been washed away leaving No. 20 breast almost three times its normal size. Three sets of timber well planked were used in crossing this breast and the work of advancement was continued along the airway. The pillars between Nos. 23 and 24 chutes were badly damaged and extra precaution was used in opening up this ground. When reaching No. 26 chute, black damp, CO<sub>2</sub>, was met and it became necessary to use a supply of compressed air to drive it out in order that the work might continue. Chute No. 26 was the first chute found opened and after driving the black damp out men explored the chute to its mouth and found the gangway filled with water. Two electric pumps were used in lowering this water and when sufficiently lowered, a raft was built and explorations in the gangway began. At chute No. 27 the men were found all alive and good physical condition.

A temporary platform was built along the legs of the gangway timber and each entombed man, after being closed behind a wall of water, timber and loose coal for six days and five hours, was slid along this platform to chute No. 26, up the chute and along the course which was opened by the rescuers to chute No. 20½, then down the chute to the gangway where the company physician gave them hot coffee and, when necessary, a hypodermic injection to stimulate their weakened hearts.

To emphasize the thoroughness with which the rescue work was conducted, it may be stated that each man was carried on a stretcher from No. 20½ chute to the ambulance, at the tunnel mouth. A slip of paper showing what treatment had been given the man was placed in charge of the captain of the stretcher squad who delivered it to the physician of the Panther Valley Hospital, where the men were taken to recuperate.

Helmet men were constantly on the scene and were prepared to push ahead the work no matter what deadly gases were encountered.

The rush of water without doubt came from the East Mammoth top split gangway. Section II and III, made through Nos. 13 and 16 breasts, respectively, show a thickness of 50 and 40 feet of good rock between the top split and bottom split veins, as proved by a rock hole which was driven back from the bottom split to the top split. No connections were made, however, when drilling these holes. The required drill hole length was kept in advance of the men at all times. No water was noticed in either of these rock chutes. In view of this fact the miners who were working No. 24 slant chute were not required to have a drill hole in advance of their working face, as at this point it was assumed that a good thickness of rock separated the worked-out top split vein and the virgin bottom split vein. However, since the accident occurred and the place was examined, it has been determined that the vein ran into fault and both splits of the vein came together and the pressure of the immense body of water aided by the blast caused what little support was there to give way with the above result.

Much credit is due to Mine Inspector David J. Roderick, Hazleton, who responded promptly when asked to assist with the rescue work, also to all the employes of the company without whose noble efforts nothing could have been accomplished.

## CONDITION OF COLLIERIES

### LEHIGH COAL AND NAVIGATION COMPANY

Nesquehoning Colliery.—Ventilation, drainage, roads and general condition as to safety, good.

Lansford Colliery.—Ventilation, drainage and general condition as to safety, good.

Coaldale Colliery.—General condition as to ventilation, drainage, roads and safety, good.

Greenwood Colliery.—Ventilation, generally good. Roads, drainage and general condition as to safety, good.

Rahn Colliery.—General condition as to safety, good. Ventilation, roads and drainage, generally good.

Tamaqua Colliery.—Ventilation and general condition as to safety, good. Drainage fair.

### COXE BROTHERS AND COMPANY, INCORPORATED

Beaver Meadow Colliery.—Ventilation, generally good. Drainage and roads, good. General condition as to safety, good.

### ESTATE A. S. VAN WICKLE

Coleraine Colliery.—Ventilation, drainage, roads and general condition as to safety, good.

The Wheelbarrow Wharton slope was abandoned on January 22. The No. 2 Old Wharton and No. 3 Mammoth slopes were also abandoned in the early part of the year.

### EVANS COLLIERY COMPANY

Evans Colliery.—Ventilation, generally good. Drainage, roads and general condition as to safety, good.

### ELMER NEYER

Black Rock Colliery.—The general conditions were good during operation. The slope was worked out and abandoned July 26.

## IMPROVEMENTS

### LEHIGH COAL AND NAVIGATION COMPANY

Nesquehoning Colliery.—Extended sub-station ash disposal plant. Installed additional breaker wash-water pump; also 5 additional jigs for steam coal. Built new sub-station near Old Hacklebernie tunnel.

Lansford Colliery.—Two electric centrifugal pumps, 3,000 gallons capacity, were installed in No. 4 slope and one centrifugal pump, 1,500 gallons capacity, was installed at No. 6 plane.

The hoisting engine, 28 by 48 inches, at No. 4 tender shaft, and the electric air compressor at Lansford No. 5 have been completed.

A new 150,000 CFM electrically driven fan and substation have been erected at the Old Black Rock slope.

A double track plane between 4th and 5th levels, No. 4 slope, has been completed.

Constructed miner's electric lamp charging station for No. 4 slope and No. 5 shaft.

A steel bridge and shelter house erected at top of No. 4 shaft.

Installed portable horizontal triplex electric slush pump.

Completed electric air compressor, No. 5, substation, completed also fireproof boiler house and washhouse for firemen at No. 6.

Made airway and escapeway, Bottom Split Mammoth, 4th level, No. 4 slope, to 2nd level, No. 5 shaft.

Coaldale Colliery.—Installed Goyne pump at No. 9 boiler house, to pump water and slush to Summit Hill mine fire; also 25,000 gallon steel water tank, No. 9 boiler house, and jig engines complete.

Extended Safety lamp house, No. 9 shaft, for miner's electric lamp charging station.

Laid ten-inch culm line from breaker to Summit Hill fire.

A new landing with transfer truck has been installed on 3rd. level No. 8 Old Shaft.

Greenwood Colliery.—Completed sinking of new shaft, depth 786 feet.

Installed transfer truck at top of Old Shaft.

Remodeled breaker and installed rotary dump and circular platform picking table.

Installed 200,000 CFM steam-driven fan in connection with water shaft as outlet.

Doubled the capacity of wash-water reservoir.

Rahn Colliery.—Completed transfer truck, pit, etc., at top of new shaft. Constructed shelter house and bridge at top of new shaft.

One triplex and two centrifugal pumps, electrically-driven, were installed on second level.

Built safety lamp house and charging station, equipped with 500 miner's electric lamps and necessary charging apparatus. Installed 200,000 CFM electrically-driven fan.

New steam-heating plan for hoist-house and buildings near top of new shaft; also new fireproof powder house.

New fireproof wash-house at Foster's tunnel.

Tamaqua Colliery.—Sinking of new shaft about one-half completed. New sub-station and equipment, also 400 H. P. electric hoist and building for water shaft, are under construction.

#### ESTATE A. S. VAN WICKLE

Coleraine Colliery.—Slope No. 2 New Wharton. Built an addition of stone and cement to the stable to accommodate 5 more mules.

A pump-house was made 12 by 36 feet in rock, on side of slope, at a point 547 feet from the surface and an emergency pump size 30 by 12 by 12 inches was installed therein.



Drove a 7 by 10 foot tunnel 120 feet long, from the above slope south, at a point 100 feet from the surface, to connect with a split of the Mammoth vein.

Made a pump-house of stone and cement at the foot of the slope, size 30 by 12 by 12 feet, and installed therein a Jeanesville 18 by 8 by 18 inch pump.

Buck Mountain Slope.—Put in concrete walls on top of the main air shaft, replacing the old timber.

Slope No. 1 Wharton.—A shaft used to carry the exhaust steam from the pumps to the surface was walled up with stone and cement a distance of 25 feet from the vein to the surface.

Slope Wheelbarrow Gamma.—Drove a tunnel 7 by 10 feet by 155 feet long, to connect with the Buck Mountain vein.

Slope No. 7 Buck Mountain.—The slope was sunk from the lower level, down to the south boundary line, distance 135 feet, pitch 23 degrees.

The No. 2 Basin. Built a flume 5 feet 6 inches by 8 feet by 600 feet long. Constructed a building of cement and wood, containing a wash-house 16 by 40 feet and a hospital 10 by 16 feet.

#### COXE BROTHERS AND COMPANY, INCORPORATED

Beaver Meadow Colliery.—The south end of the main drainage tunnel was retimbered for a distance of 1,000 feet from the entrance.

The mouth of No. 2 slope was repaired by replacing the wood timber with steel "I" beams resting on concrete walls; the space between the "I" beams being filled in with concrete, reinforced with by-rib. Twenty-six steel "I" beams were also placed along the slope to support the roof, replacing wood support.

A brick building 8 by 10 feet, was erected to house the fire-pump.

The hoisting engine at No. 2 slope was replaced by a larger and more modern engine, 24 by 38 inches. The old engine house was replaced by one made of tile. A tile air compressor house was erected.

The breaker was equipped throughout with a modern spray system for protection against fire.

During the year 190,142 cubic yards of material were excavated from the Greenfield stripping, and 202,281 cubic yards from the Temperance stripping.



## EIGHTEENTH DISTRICT

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SCHUYLKILL COUNTY

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Pottsville, Pa., February 18, 1916.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my annual report as Inspector of Mines for the Eighteenth Anthracite District for the year ending December 31, 1915.

Respectfully submitted,

KERAN DONAHUE,

Inspector.

## SUMMARY OF STATISTICS

Number of collieries, .....	13
Number of mines, .....	46
Number of mines in operation, .....	46
Number of tons of coal shipped to market, .....	2,781,872
Number of tons used at mines for steam and heat, .....	344,443
Number of tons sold to local trade and used by employes, .....	34,125
Number of tons produced, .....	3,160,440
Number of tons produced by compressed air machines, ..	.....
Number of tons produced by electrical machines, .....	.....
Number of persons employed inside of mines, .....	4,413
Number of persons employed outside, .....	1,939
Number of fatal accidents inside of mines, .....	21
Number of fatal accidents outside, .....	4
Number of non-fatal accidents inside of mines, .....	38
Number of non-fatal accidents outside, .....	14
Number of tons of coal produced per fatal accident inside, ..	150,497
Number of tons produced per fatal accident outside, ...	790,110
Number of tons produced per fatal accident inside and outside, .....	126,418
Number of persons employed per fatal accident inside, ..	210
Number of persons employed per fatal accident outside, .	485
Number of persons employed per fatal accident inside and outside, .....	254
Number of persons employed per non-fatal accident inside, ..	116
Number of persons employed per non-fatal accident outside, ..	138
Number of persons employed per non-fatal accident inside and outside, .....	122
Number of wives made widows, .....	17
Number of children made orphans, .....	45
Number of steam locomotives used inside of mines, .....	2
Number of steam locomotives used outside, .....	28
Number of compressed air locomotives used inside, ....	....
Number of compressed air locomotives used outside, ....	9
Number of electric motors used inside, .....	10
Number of electric motors used outside, .....	1
Number of gasoline locomotives used inside, .....	2
Number of fans in use, .....	32
Number of furnaces in use, .....	.....
Number of gaseous mines in operation, .....	21
Number of non-gaseous mines in operation, .....	25
Number of new mines opened, .....	.....
Number of old mines abandoned, .....	.....

TABLE A  
PRODUCTION OF COAL

Names of Operators	Tons
Lehigh and Wilkes-Barre Coal Company, .....	706,225
Philadelphia and Reading Coal and Iron Company, .....	706,063
Dodson Coal Company, .....	440,978
Maryd Coal Company, .....	370,233
Coxe Brothers and Company, Incorporated, .....	333,334
Lehigh Valley Coal Company, .....	296,365
Mill Creek Coal Company, .....	170,510
East Lehigh Coal Company, .....	72,506
Port Carbon Coal Company, .....	47,688
Gorman and Campion, .....	16,538
<b>Total, .....</b>	<b>3,160,440</b>

Production by Counties

Schuylkill, .....	3,160,440
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TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Lehigh and Wilkes-Barre Coal Co., .....	4	1	5	13	10	23	176,556	54,325	1,138	543	1,681	285	543	87	54
Philadelphia and Reading Coal and Iron Co., .....	4	4	8	16	.....	16	176,516	44,120	1,026	488	1,494	257	.....	64	.....
Dodson Coal Co., .....	3	.....	3	1	.....	1	146,993	440,378	522	219	1,741	174	.....	522	.....
Maryd Coal Co., .....	1	.....	1	1	.....	1	370,233	370,233	375	178	553	375	.....	375	178
Coxe Brothers and Co., Inc., .....	2	.....	2	4	1	5	166,667	.....	445	114	559	222	.....	.....	114
Lehigh Valley Coal Co., .....	1	.....	1	.....	.....	.....	74,091	.....	563	147	710	141	.....	141	.....
Mill Creek Coal Co., .....	1	1	2	3	2	5	170,510	56,837	180	155	335	180	77	60	77
East Lehigh Coal Co., .....	2	.....	2	.....	.....	.....	36,253	.....	97	61	153	48	.....	.....	.....
Miscellaneous Companies, .....	.....	.....	.....	.....	.....	.....	.....	.....	54	54	121	.....	.....	.....	.....
Totals and averages, .....	21	4	25	38	14	52	150,497	83,169	4,413	1,939	6,352	210	485	116	138



TABLE C.—Causes of Fatal Accidents Inside and Outside of Mines

	Months												Totals	Percentages
	January	February	March	April	May	June	July	August	September	October	November	December		
Inside														
Falls of coal, .....							1	1	1		1		4	19.05
Falls of slate, .....		1											1	4.76
Falls of roof, .....	1									1	2		4	19.05
Mine cars, .....			1						1					9.53
Explosions of gas, .....							2							9.53
Suffocation by gas, etc., .....												1	1	4.76
Blasts, premature and otherwise, .....										2			2	9.52
Falling down chute, ..				1						1				9.52
Crushed at batteries, ..								1	1				2	4.76
Rush of coal, .....				1				1					2	9.52
Totals, .....	1	1	1	2			3	2	3	4	3	1	21	100.00
Outside														
Machinery, .....							1						1	25.00
Boiler explosions, .....											2		2	50.00
Falling in breaker, ..					1								1	25.00
Totals, .....					1		1				2		4	100.00
Grand totals inside and outside, .....	1	1	1	2	1		4	2	3	4	5	1	25	

TABLE D.—Causes of Non-Fatal Accidents Inside and Outside of Mines

	Months												Totals	Percentages
	January	February	March	April	May	June	July	August	September	October	November	December		
Inside														
Falls of coal, .....	.....	.....	.....	1	.....	2	.....	.....	.....	.....	.....	1	4	10.53
Falls of slate, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	2	5.27
Falls of roof, .....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	2	5.27
Mine cars, .....	1	1	1	1	.....	.....	.....	.....	1	3	.....	.....	6	21.05
Explosions of gas, ....	.....	1	.....	.....	.....	3	1	2	.....	2	.....	.....	9	23.69
Explosions of powder and dynamite, .....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	2.63
Blasts, premature and otherwise, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	2	5.26
Mules, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	2	5.26
Explosion of carbide, .....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	2	5.26
Struck by timber, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	2.63
Struck by piece of coal, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	2.63
Rush of gas, .....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	2.63
Rush of coal, .....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	2.63
Squeezed by timber, ..	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	2.63
Falling, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	2.63
Totals, .....	1	3	1	2	.....	6	4	2	3	9	2	5	38	100.00
Outside														
Cars, .....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	1	1	4	28.58
Scalded by water from hot ashes, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	7.14
Squeezed between bar- rels, .....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	7.14
Falling off ladder, ....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	7.15
Falling down steps, ....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	7.14
Struck by piece of coal, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	7.14
Struck by timber, .....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	2	14.29
Struck by piece of rock, .....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	7.14
Struck by stone, .....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	7.14
Struck by block, .....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	7.14
Totals, .....	.....	3	.....	.....	.....	1	.....	.....	3	1	4	2	14	100.00
Grand totals inside and outside, .....	1	6	1	2	.....	7	4	2	6	10	6	7	52	.....

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months											
	Totals	December	November	October	September	August	July	June	May	April	March	February
<b>Inside</b>												
Miners, .....	16	1	3	3	2	1	3	...	...	2	...	1
Miners' laborers, .....	3	...	...	1	1	1	...	...	...	...	...	1
Drivers and runners, .....	2	...	...	...	1	...	...	...	...	1	...	...
Totals, .....	21	1	3	4	3	2	3	...	...	2	1	1
<b>Outside</b>												
Engineers and firemen, .....	1	...	1	...	...	...	...	...	...	...	...	...
Drivers, .....	1	...	1	...	...	...	1	...	1	...	...	...
Jig runners, .....	2	...	...	...	...	...	...	...	...	...	...	...
Totals, .....	4	...	2	...	...	1	1	...	1	...	...	...
Grand totals inside and outside, .....	25	1	5	4	3	2	4	...	1	2	1	1

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months											
	Totals	December	November	October	September	August	July	June	May	April	March	February
<b>Inside</b>												
Miners, .....	18	3	...	4	2	2	1	4	...	1	1	2
Miners' laborers, .....	8	1	...	...	1	1	2	2	...	...	...	...
Drivers and runners, .....	9	1	1	4	1	...	1	...	...	...	1	...
Chainmen, .....	1	...	1	...	...	...	...	...	...	1	...	...
Track-helpers, .....	1	...	...	...	...	...	...	...	...	...	...	...
Patchers, .....	1	...	...	...	...	...	...	...	...	...	...	1
Totals, .....	38	5	2	9	3	2	4	6	...	2	1	3
<b>Outside</b>												
Firemen, .....	1	...	1	...	...	...	...	...	...	...	...	...
Company men, .....	1	1	...	...	...	...	...	...	...	...	...	...
Loaders, .....	1	...	1	...	...	...	...	...	...	...	...	...
Painters, .....	1	...	...	...	...	...	...	...	...	...	...	...
Oilers, .....	1	...	1	...	...	...	...	...	...	...	...	...
Timbermen, .....	1	...	...	1	...	...	...	...	...	...	...	...
Chute bosses, .....	1	1	...	...	...	...	...	...	...	...	...	...
Ashmen, .....	1	...	...	...	...	...	...	...	...	...	1	...
Propmen, .....	1	...	...	...	...	...	...	...	...	...	1	...
Laborers, .....	5	...	...	1	2	...	...	1	...	...	1	...
Totals, .....	14	2	4	1	3	...	...	1	...	...	3	...
Grand totals inside and outside, .....	52	7	6	10	6	2	4	7	...	2	1	6

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	Totals	December	November	October	September	August	July	June	May	April	March	February	January
American, .....	4	1	1	1	1	1	2	1	1	1	1	1	1
English, .....	1	1	1	1	1	1	1	1	1	1	1	1	1
German, .....	5	1	2	1	1	1	1	1	1	1	1	1	1
Polish, .....	2	1	1	1	1	1	1	1	1	1	1	1	1
Hungarian, .....	1	1	1	1	1	1	1	1	1	1	1	1	1
Italian, .....	2	1	1	1	1	1	1	1	1	1	1	1	1
Slavonian, .....	3	1	1	1	1	1	1	1	1	1	1	1	1
Lithuanian, .....	3	1	1	1	1	1	1	1	1	1	1	1	1
Russian, .....	3	1	1	1	1	1	1	1	1	1	1	1	1
Greek, .....	2	1	1	1	1	1	1	1	1	1	1	1	1
Totals, .....	25	1	5	4	3	2	4	1	1	2	1	1	1

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	Totals	December	November	October	September	August	July	June	May	April	March	February	January
American, .....	10	2	2	2	1	1	1	1	1	1	2	1	1
Polish, .....	13	3	3	3	2	2	2	2	2	2	1	2	1
Italian, .....	8	2	2	2	2	2	2	2	2	2	1	2	1
Slavonian, .....	8	2	1	1	1	1	1	1	1	1	1	1	1
Lithuanian, .....	5	1	1	1	1	1	1	1	1	1	1	1	1
Austrian, .....	3	1	1	1	1	1	1	1	1	1	1	1	1
Russian, .....	3	1	1	1	1	1	1	1	1	1	1	1	1
Greek, .....	2	1	1	1	1	1	1	1	1	1	1	1	1
Totals, .....	52	7	6	10	6	2	4	7	1	2	1	6	1



Eagle Hill Colliery:	Eagle Hill, .....	Fan, .....	18	6.1	6	70	1.5	{	Guibal, ...	Steam, .....	{	11	63,975	136
	Eagle Hill, .....	Gaseous, .....	21	6	6.1	68	1							
	Eagle Hill, .....	Gaseous, .....	8	2.1	2.3	80	.8							
	Eagle Hill No. 4, .....	Non-gas, .....	8	2.1	2.3	80	.6							
	Eagle Hill No. 7, .....	Gaseous, .....	8	2.1	2.3	80	.6							
Dodson Coal Co.														
Morea Colliery:	Morea, .....	Gaseous, .....	18	6.10	6	80	1	{	Guibal, ...	Steam, .....	{	10	75,000	522
	Morea, .....	Gaseous, .....	18	6.10	6	80	.9							
Maryd Coal Co.	Maryd, .....	Gaseous, .....	20	6	6	80	2	{	Guibal, ...	Steam, .....	{	2	80,000	206
	Maryd, .....	Gaseous, .....	18	6	5	70	1.75							
	Maryd, .....	Gaseous, .....	16	4.2	4.9	65	1.75							
	Maryd, .....	Gaseous, .....	16	4	5	80	1.80							
	Maryd, .....	Gaseous, .....	16	4	5	80	1.80							
Coxe Brothers and Co., Inc.														
Oneida Colliery:	{ Shaft, .....	{	12.6	5.3	5.10	125	.7		{	Steam, .....	{	8	69,900	192
	{ and Slope, .....													
	Shaft, .....													
	Slope, .....													
Oneida No. 1, .....	Oneida No. 3, .....	Non-gas, .....	20	6	6.6	70	4.2	{	Guibal, ...	Steam, .....	{	4	55,800	135
	Oneida No. 4, .....	Gaseous, .....	20	6	6.9	60	5							
	Oneida No. 4, .....	Gaseous, .....	20	6	6.9	60	5							
Lehigh Valley Coal Co.														
Buck Mountain Colliery:	Buck Mountain, .....	Gaseous, .....	20	6.8	6	70	1	{	Guibal, ...	Steam, .....	{	10	116,000	260
	Buck Mountain, .....	Gaseous, .....	25	8	6.3	65	1.6							
	Vulcan, .....	Gaseous, .....	25	8	6.3	65	1.6							
Mill Creek Coal Co.														
Middle Lehigh Colliery:	Middle Lehigh No. 3, .....	Gaseous, .....	16	4.5	4.1	80	.4	{	Guibal, ...	Steam, .....	{	5	70,400	88,000
	Middle Lehigh No. 3, .....	Non-gas, .....	16	4.5	4.1	80	.4							
	Middle Lehigh No. 11, .....	Non-gas, .....	16	4.5	4.1	80	.4							
	Middle Lehigh No. 12, .....	Non-gas, .....	16	4.5	4.1	80	.4							
Wolf Creek Colliery:	Buck Mountain, .....	Natural, .....	.....	.....	.....	.....	.....	{	Guibal, ...	Steam, .....	{	1	5,130	22
	Buck Mountain, .....	Natural, .....	.....	.....	.....	.....	.....							
	North, .....	Natural, .....	.....	.....	.....	.....	.....							
	Skitmore, .....	Natural, .....	.....	.....	.....	.....	.....							
East Lehigh Coal Co.														
East Lehigh Colliery:	East Lehigh, .....	Gaseous, ...	14	3.3	3	100	.7	{	Guibal, ...	Steam, .....	{	2	19,000	85
	East Lehigh, .....	Gaseous, ...	10	3.3	3	98	.7							
Port Carbon Coal Co.														
Lucy R. Colliery:	Lucy R., .....	Non-gas, .....	.....	.....	.....	.....	.....	{	Guibal, ...	Steam, .....	{	.....	.....	40
	Lucy R., .....	Non-gas, .....	.....	.....	.....	.....	.....							
Wolf Creek Coal Co.														
Middle Lehigh Colliery:	Middle Lehigh No. 3, .....	Gaseous, .....	16	4.5	4.1	80	.4	{	Guibal, ...	Steam, .....	{	5	70,400	88,000
	Middle Lehigh No. 3, .....	Non-gas, .....	16	4.5	4.1	80	.4							
	Middle Lehigh No. 11, .....	Non-gas, .....	16	4.5	4.1	80	.4							
	Middle Lehigh No. 12, .....	Non-gas, .....	16	4.5	4.1	80	.4							
Wolf Creek Colliery:	Buck Mountain, .....	Natural, .....	.....	.....	.....	.....	.....	{	Guibal, ...	Steam, .....	{	1	5,100	5,530
	Buck Mountain, .....	Natural, .....	.....	.....	.....	.....	.....							
	North, .....	Natural, .....	.....	.....	.....	.....	.....							
	Skitmore, .....	Natural, .....	.....	.....	.....	.....	.....							
East Lehigh Coal Co.														
East Lehigh Colliery:	East Lehigh, .....	Gaseous, ...	14	3.3	3	100	.7	{	Guibal, ...	Steam, .....	{	2	20,000	85
	East Lehigh, .....	Gaseous, ...	10	3.3	3	98	.7							
Port Carbon Coal Co.														
Lucy R. Colliery:	Lucy R., .....	Non-gas, .....	.....	.....	.....	.....	.....	{	Guibal, ...	Steam, .....	{	.....	.....	40
	Lucy R., .....	Non-gas, .....	.....	.....	.....	.....	.....							
Wolf Creek Coal Co.														
Middle Lehigh Colliery:	Middle Lehigh No. 3, .....	Gaseous, .....	16	4.5	4.1	80	.4	{	Guibal, ...	Steam, .....	{	5	70,400	88,000
	Middle Lehigh No. 3, .....	Non-gas, .....	16	4.5	4.1	80	.4							
	Middle Lehigh No. 11, .....	Non-gas, .....	16	4.5	4.1	80	.4							
	Middle Lehigh No. 12, .....	Non-gas, .....	16	4.5	4.1	80	.4							
Wolf Creek Colliery:	Buck Mountain, .....	Natural, .....	.....	.....	.....	.....	.....	{	Guibal, ...	Steam, .....	{	1	5,130	22
	Buck Mountain, .....	Natural, .....	.....	.....	.....	.....	.....							
	North, .....	Natural, .....	.....	.....	.....	.....	.....							
	Skitmore, .....	Natural, .....	.....	.....	.....	.....	.....							
East Lehigh Coal Co.														
East Lehigh Colliery:	East Lehigh, .....	Gaseous, ...	14	3.3	3	100	.7	{	Guibal, ...	Steam, .....	{	2	19,000	85
	East Lehigh, .....	Gaseous, ...	10	3.3	3	98	.7							
Port Carbon Coal Co.														
Lucy R. Colliery:	Lucy R., .....	Non-gas, .....	.....	.....	.....	.....	.....	{	Guibal, ...	Steam, .....	{	.....	.....	40
	Lucy R., .....	Non-gas, .....	.....	.....	.....	.....	.....							
Wolf Creek Coal Co.														
Middle Lehigh Colliery:	Middle Lehigh No. 3, .....	Gaseous, .....	16	4.5	4.1	80	.4	{	Guibal, ...	Steam, .....	{	5	70,400	88,000
	Middle Lehigh No. 3, .....	Non-gas, .....	16	4.5	4.1	80	.4							
	Middle Lehigh No. 11, .....	Non-gas, .....	16	4.5	4.1	80	.4							
	Middle Lehigh No. 12, .....	Non-gas, .....	16	4.5	4.1	80	.4							
Wolf Creek Colliery:	Buck Mountain, .....	Natural, .....	.....	.....	.....	.....	.....	{	Guibal, ...	Steam, .....	{	1	5,130	22
	Buck Mountain, .....	Natural, .....	.....	.....	.....	.....	.....							
	North, .....	Natural, .....	.....	.....	.....	.....	.....							
	Skitmore, .....	Natural, .....	.....	.....	.....	.....	.....							
East Lehigh Coal Co.														
East Lehigh Colliery:	East Lehigh, .....	Gaseous, ...	14	3.3	3	100	.7	{	Guibal, ...	Steam, .....	{	2	19,000	85
	East Lehigh, .....	Gaseous, ...	10	3.3	3	98	.7							
Port Carbon Coal Co.														
Lucy R. Colliery:	Lucy R., .....	Non-gas, .....	.....	.....	.....	.....	.....	{	Guibal, ...	Steam, .....	{	.....	.....	40
	Lucy R., .....	Non-gas, .....	.....	.....	.....	.....	.....							
Wolf Creek Coal Co.														
Middle Lehigh Colliery:	Middle Lehigh No. 3, .....	Gaseous, .....	16	4.5	4.1	80	.4	{	Guibal, ...	Steam, .....	{	5	70,400	88,000
	Middle Lehigh No. 3, .....	Non-gas, .....	16	4.5	4.1	80	.4							
	Middle Lehigh No. 11, .....	Non-gas, .....	16	4.5	4.1	80	.4							
	Middle Lehigh No. 12, .....	Non-gas, .....	16	4.5	4.1	80	.4							
Wolf Creek Colliery:	Buck Mountain, .....	Natural, .....	.....	.....	.....	.....	.....	{	Guibal, ...	Steam, .....	{	1	5,130	22
	Buck Mountain, .....	Natural, .....	.....	.....	.....	.....	.....							
	North, .....	Natural, .....	.....	.....	.....	.....	.....							
	Skitmore, .....	Natural, .....	.....	.....	.....	.....	.....							
East Lehigh Coal Co.														
East Lehigh Colliery:	East Lehigh, .....	Gaseous, ...	14	3.3	3	100	.7	{	Guibal, ...	Steam, .....	{	2	19,000	85
	East Lehigh, .....	Gaseous, ...	10	3.3	3	98	.7							
Port Carbon Coal Co.														
Lucy R. Colliery:	Lucy R., .....	Non-gas, .....	.....	.....	.....	.....	.....	{	Guibal, ...	Steam, .....	{	.....	.....	40
	Lucy R., .....	Non-gas, .....	.....	.....	.....	.....	.....							
Wolf Creek Coal Co.														
Middle Lehigh Colliery:	Middle Lehigh No. 3, .....	Gaseous, .....	16	4.5	4.1	80	.4	{	Guibal, ...	Steam, .....	{	5	70,400	88,000
	Middle Lehigh No. 3, .....	Non-gas, .....	16	4.5	4.1	80	.4							
	Middle Lehigh No. 11, .....	Non-gas, .....	16	4.5	4.1	80	.4							
	Middle Lehigh No. 12, .....	Non-gas, .....	16	4.5	4.1	80	.4							
Wolf Creek Colliery:	Buck Mountain, .....	Natural, .....	.....	.....	.....	.....	.....	{	Guibal, ...	Steam, .....	{	1	5,130	22
	Buck Mountain, .....	Natural, .....	.....	.....	.....	.....	.....							
	North, .....	Natural, .....	.....	.....	.....	.....	.....							
	Skitmore, .....	Natural, .....	.....	.....	.....	.....	.....							
East Lehigh Coal Co.														
East Lehigh Colliery:	East Lehigh, .....	Gaseous, ...	14	3.3	3	100	.7	{	Guibal, ...	Steam, .....	{	2	19,000	85
	East Lehigh, .....	Gaseous, ...	10	3.3	3	98	.7							
Port Carbon Coal Co.														
Lucy R. Colliery:	Lucy R., .....	Non-gas, .....	.....	.....	.....	.....	.....	{	Guibal, ...	Steam, .....	{	.....	.....	40
	Lucy R., .....	Non-gas, .....	.....	.....	.....	.....	.....							
Wolf Creek Coal Co.														
Middle Lehigh Colliery:	Middle Lehigh No. 3, .....	Gaseous, .....	16	4.5	4.1	80	.4	{	Guibal, ...	Steam, .....	{	5	70,400	88,000
	Middle Lehigh No. 3, .....	Non-gas, .....	16	4.5	4.1	80	.4							
	Middle Lehigh No. 11, .....	Non-gas, .....	16	4.5	4.1	80	.4							
	Middle Lehigh No. 12, .....	Non-gas, .....	16	4.5	4.1	80	.4							
Wolf Creek Colliery:	Buck Mountain, .....	Natural, .....	.....	.....	.....	.....	.....	{	Guibal, ...	Steam, .....	{	1	5,130	22
	Buck Mountain, .....	Natural, .....	.....	.....	.....	.....	.....							
	North, .....	Natural, .....	.....	.....	.....	.....	.....							
	Skitmore, .....	Natural, .....	.....	.....	.....	.....	.....							
East Lehigh Coal Co.														
East Lehigh Colliery:	East Lehigh, .....	Gaseous, ...	14	3.3	3	100	.7	{	Guibal, ...	Steam, .....	{	2	19,000	85
	East Lehigh, .....	Gaseous, ...	10	3.3	3	98	.7							
Port Carbon Coal Co.														
Lucy R. Colliery:	Lucy R., .....	Non-gas, .....	.....	.....	.....	.....	.....	{	Guibal, ...	Steam, .....	{	.....	.....	40
	Lucy R., .....	Non-gas, .....	.....	.....	.....	.....	.....							
Wolf Creek Coal Co.														
Middle Lehigh Colliery:	Middle Lehigh No. 3, .....	Gaseous, .....	16	4.5	4.1	80	.4	{	Guibal, ...	Steam, .....	{	5	70,400	88,000
	Middle Lehigh No. 3, .....	Non-gas, .....	16	4.5	4.1	80	.4							
	Middle Lehigh No. 11, .....	Non-gas, .....	16	4.5	4.1	80	.4							
	Middle Lehigh No. 12, .....	Non-gas, .....	16	4.5	4.1	80	.4							
Wolf Creek Colliery:	Buck Mountain, .....	Natural, .....	.....	.....	.....	.....	.....	{	Guibal, ...	Steam, .....	{	1	5,130	22
	Buck Mountain, .....	Natural, .....	.....	.....	.....	.....	.....							
	North, .....	Natural, .....	.....	.....	.....	.....	.....							
	Skitmore, .....	Natural, .....	.....	.....	.....	.....	.....							
East Lehigh Coal Co.														
East Lehigh Colliery:	East Lehigh, .....	Gaseous, ...	14	3.3	3	100	.7	{	Guibal, ...	Steam, .....	{	2	19,000	85
	East Lehigh, .....	Gaseous, ...	10	3.3	3	98	.7							
Port Carbon Coal Co.														
Lucy R. Colliery:	Lucy R., .....	Non-gas, .....	.....	.....	.....	.....	.....	{	Guibal, ...	Steam, .....	{	.....	.....	40
	Lucy R., .....	Non-gas, .....	.....	.....	.....	.....	.....							
Wolf Creek Coal Co.														
Middle Lehigh Colliery:	Middle Lehigh No. 3, .....	Gaseous, .....	16	4.5	4.1	80	.4	{	Guibal, ...	Steam, .....	{	5	70,400	88,000
	Middle Lehigh No. 3, .....	Non-gas, .....	16	4.5	4.1	80	.4							
	Middle Lehigh No. 11, .....	Non-gas, .....	16	4.5	4.1	80	.4							
	Middle Lehigh No. 12, .....	Non-gas, .....	16	4.5	4.1	80	.4							
Wolf Creek Colliery:	Buck Mountain, .....	Natural, .....	.....	.....	.....	.....	.....	{	Guibal, ...	Steam, .....	{	1	5,130	22
	Buck Mountain, .....	Natural, .....	.....	.....	.....	.....	.....							
	North, .....	Natural, .....	.....	.....	.....	.....	.....							
	Skitmore, .....	Natural, .....	.....	.....	.....	.....	.....							
East Lehigh Coal Co.														
East Lehigh Colliery:	East Lehigh, .....	Gaseous, ...	14	3.3	3	100	.7	{	Guibal, ...	Steam, .....	{	2	19,000	85
	East Lehigh, .....	Gaseous, ...	10	3.3	3	98	.7							
Port Carbon Coal Co.														
Lucy R. Colliery:	Lucy R., .....	Non-gas, .....	.....	.....	.....	.....	.....	{	Guibal, ...	Steam, .....	{	.....	.....	40
	Lucy R., .....	Non-gas, .....	.....	.....	.....	.....	.....							
Wolf Creek Coal Co.														
Middle Lehigh Colliery:	Middle Lehigh No. 3, .....	Gaseous, .....	16	4.5	4.1	80	.4	{	Guibal, ...	Steam, .....	{	5	70,400	88,000
	Middle Lehigh No. 3, .....	Non-gas, .....	16	4.5	4.1	80	.4							
	Middle Lehigh No. 11, .....	Non-gas, .....	16	4.5	4.1	80	.4							
	Middle Lehigh No. 12, .....	Non-gas, .....	16	4.5	4.1	80	.4							
Wolf Creek Colliery:	Buck Mountain, .....	Natural, .....	.....	.....	.....	.....	.....	{	Guibal, ...	Steam, .....	{	1	5,130	22
	Buck Mountain, .....	Natural, .....	.....	.....	.....	.....	.....							
	North, .....	Natural, .....	.....	.....	.....	.....	.....							
	Skitmore, .....	Natural, .....	.....	.....	.....	.....	.....							
East Lehigh Coal Co.														
East Lehigh Colliery:	East Lehigh, .....	Gaseous, ...	14	3.3	3	100	.7	{	Guibal, ...	Steam, .....	{	2	19,000	85
	East Lehigh, .....	Gaseous, ...	10	3.3	3	98	.7							
Port Carbon Coal Co.														
Lucy R. Colliery:	Lucy R., .....	Non-gas, .....	.....	.....	.....	.....	.....							

TABLE I.—Continued

Names of Operators and Mines	Number of persons employed inside	..... } 27 ..... }
	Number of cubic feet of air per minute passing out at outlet	..... ..... 17,000
	Total number of cubic feet of air per minute circulating in all the splits	..... ..... 15,800
	Number of cubic feet of air per minute entering the mine at inlet	..... ..... 16,500
	Number of splits of air currents	..... 1
	Power used	..... ..... Steam, .....
	Name of fan	..... ..... Guibal, .....
	Water gauge developed—in inches	..... 1
	Number of revolutions per minute	..... ..... 140
	Depth of blades in feet and inches	..... ..... 1.8
	Width of blades in feet and inches	..... ..... 4
	Diameter of fan in feet and inches	..... ..... 10
	Method of ventilation	Natural, } Fan, .... }
	Gaseous or non-gaseous	Non-gas., Non-gas.,
	Kind of opening	Drift, ..... Slope, .....
		Gorman and Campton Bell Colliery: Bell, ..... Bell, .....



TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Lehigh and Wilkes-Barre Coal Co. Audenried No. 4, ..... Honey Brook No. 5, ..... Philadelphia and Reading Coal and Iron Co. Silver Creek, ..... Eagle Hill, .....	<div> <div>Schuylkill, ...</div> <div>Schuylkill, ...</div> </div>	C. F. Huber, ..... G. B. Hadesty, .....	Wilkes-Barre, ..... Pottsville, .....	Walter Fahringer, ... { Claude F. Lewis, Division Supt., David Jones, In- side Supt., William Tiley, Outside Supt. }	Audenried, ..... Pottsville, .....	C. R. R. of N. J.  P. and R.
Dodson Coal Co. Morca, ..... Maryd, ..... Coxe Brothers and Co., Inc. Onella, ..... Lehigh Valley Coal Co. Buck Mountain, .....	<div> <div>Schuylkill, ....</div> <div>Schuylkill, ....</div> <div>Schuylkill, ....</div> <div>Schuylkill, ....</div> </div>	J. B. Connell, ..... T. E. Snyder, ..... Thomas Thomas, .... Thomas Thomas, ....	Beaver Brook, ..... Hazleton, ..... Wilkes-Barre, ..... Wilkes-Barre, .....	William A. McGinley, ... Arthur Kennedy, .... W. H. Davies, ..... Thomas R. Jones, ...	Morca, ..... Maryd, ..... Hazleton, ..... Mahanoy City, .....	L. V., Penna. and P. and R. P. and R. and C. R. R. of N. J. Lehigh Valley Lehigh Valley
Mt. Creek Coal Co. Middle Lehigh, ..... Wolf Creek, ..... East Lehigh Coal Co. East Lehigh, ..... Port Carbon Coal Co. Lucy R., ..... Gorman and Campion Bell, .....	<div> <div>Schuylkill, ...</div> <div>Schuylkill, ...</div> <div>Schuylkill, ...</div> <div>Schuylkill, ...</div> <div>Schuylkill, ...</div> <div>Schuylkill, ...</div> </div>	T. D. Jones, ..... E. M. B. Shepp, ..... Daniel J. Slattery, ... Daniel J. Slattery, ...	New Boston, ..... Tamaqua, ..... Port Carbon, ..... Tuscarora, .....	J. E. Jones, ..... E. M. B. Shepp, ..... ..... Daniel J. Slattery, ..	New Boston, ..... Tamaqua, ..... ..... Tuscarora, .....	{ Penna. and L. V. Pennsylvania  L. and N. E. and P. and R. P. and R. P. and R.



[illegible]



TABLE 3.—Number of each class of employees inside and outside of mines

Names of Operators	County	Inside										Outside										Grand total	
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employees	Total outside		
Lehigh and Wilkes-Barre Coal Co., .....	Schuylkill, .....	3	8	4	357	230	72	39	13	258	154	1,133	3	7	31	66	82	1	5	348	543	1,681	
Philadelphia and Reading Coal and Iron Co., .....		3	22	6	477	150	69	1	1	61	242	1,026	...	3	25	47	65	11	11	306	468	1,494	
Dodson Coal Co., .....		1	1	10	158	136	16	5	2	89	77	522	...	1	21	37	16	21	5	117	219	741	
Maryd Coal Co., .....		1	1	...	160	120	28	7	1	34	10	375	...	2	14	28	27	...	...	103	178	553	
Coxe Brothers and Co., Inc., .....		1	8	...	300	200	29	9	1	72	56	563	...	1	17	22	...	...	4	80	114	559	
Lehigh Valley Coal Co., .....		2	17	...	318	120	29	1	2	11	6	180	...	1	11	11	...	...	7	95	147	710	
Mill Creek Coal Co., .....		2	2	1	98	39	15	1	5	16	4	97	1	1	11	29	7	9	5	93	155	335	
East Lehigh Coal Co., .....		1	1	...	38	16	17	2	2	4	3	40	1	1	1	4	10	...	...	42	61	158	
Fort Carbon Coal Co., .....		1	...	...	20	6	4	...	...	2	...	27	...	1	...	...	6	...	...	12	20	70	
Gorman and Crompton, .....		1	1	...	16	4	2	1	...	2	...	40	...	1	...	...	4	...	...	12	24	51	
Totals, .....	.....	16	60	22	1,982	800	307	68	32	520	606	4,413	8	20	131	262	217	49	39	1,213	1,939	6,352	





TABLE 4.—Fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 23	Joseph Salvogte, ....	Italian, .....	Laborer, .....	40	M.	1	4	Honey Brook No. 5,		Killed by fall of roof on gangway while assisting to place a truck on the track.
Feb. 25	John Grudgen, .....	Polish, .....	Miner, .....	30	M.	1	2	Middle Lehigh,		Killed by fall of slate at face of breast.
March 4	John Strapinas, .....	Lithuanian, .....	Driver, .....	36	S.	....	....	Silver Creek, ..		Killed by falling under empty trip of mine car.
April 21	Ralph Cortez, .....	Italian, .....	Miner, .....	33	M.	1	6	Honey Brook No. 5,		Killed by rush of coal on gangway while opening chute in pillar.
	Fred Sheldigger, ....	German, ..	Miner, .....	62	M.	1	....	East Lehigh, ..		Killed by falling down chute while making an examination in the morning.
May 11	Richard Green, .....	American, ..	Jig runner, ...	23	S.	....	....	Buck Mountain,		Killed by falling a distance of 33 feet to the concrete floor in the breaker. Outside.
July 8	{ John Kotch, .....	Polish, .....	Miner, .....	38	M.	1	6	{ Buck Mountain		Fatally burned by explosion of gas at face of breast.
12	{ Robert Cowley, ....	American, ..	Miner, .....	37	M.	1	7	{ Onedia, .....		Killed by fall of coal at face of breast.
22	Stephen Guba, ....	Slavonian, ..	Miner, .....	34	M.	1	....	Honey Brook		Fatally injured. While playing outside.
	John Batoma, .....	American, ..	Jig runner, ...	17	S.	....	....	No. 5,		Was injured in the breakers. Outside.
Aug. 18	Michael Boris, .....	Slavonian, ..	Laborer, .....	55	M.	1	3	Onedia, .....		Killed by fall of coal at face of breast.
25	Michael Surcinas, ....	Greek, .....	Miner, .....	48	M.	1	3	Morea, .....	Schuykill...	Killed by rush of coal on gangway while sinking a prop hole.
Sept. 4	Frank Rhuberg, .....	German, ..	Miner, .....	55	M.	1	....	East Lehigh, ..		Crushed at battery by rush of coal.
17	John Bely, .....	Hungarian, ..	Miner, .....	48	S.	....	....	Maryd, .....		Killed by fall of coal at pillar work.
23	John Frank, .....	Slavonian, ..	Driver, .....	22	S.	....	....	Silver Creek, ...		Killed by falling under cars on gangway.
Oct. 12	Alex Tomcavage, ....	Russian, ...	Miner, .....	35	M.	1	2	Audendunk No. 4		Fatally injured by fall of roof in cross-cut. Died in hospital the same day.
19	Frank Younisky, ....	Greek, .....	Miner, .....	26	S.	....	....	Morea, .....		Fatally injured by falling down chute. He was up in the chute while his partner was preparing a charge when the pillar came down, causing great injury to his feet. He may have been struck by the chute. Died that night at the hospital.
Nov. 22	{ Frank Spokes, .....	Lithuanian, ..	Miner, .....	32	M.	1	2	{ Silver Creek, ...		Fatally injured by explosion of blast while recharging a hole that had missed fire.
20	{ Mike Condrack, .....	Polish, .....	Laborer, .....	28	S.	....	....	{ Buck Mountain		Killed by fall of roof at face of gangway.
	{ John Birbeck, .....	English, ...	Miner, .....	33	M.	1	2	{		
	{ Frank Metzger, ....	American, ..	Miner, .....	23	M.	1	4	{		

TABLE 4.—Continued

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Nov. 20	Steve Butrawevitch, ..	Russian, ...	Miner, .....	32	M.	1	1	Audenried No. 4 Middle Lehigh, Moresa, .....	Schuylkill, ...	Killed by fall of coal while robbing pillars. Instantly killed by boiler explosion. Out-side. Smothered. He started to put a hole in a rock that was caught in the battery, when the rock dropped out and caught him forcing his face down into some soft dirt.
Nov. 23	Adam Morasko, ....	Polish, .....	Engineer, ....	32	M.	1	2			
Dec. 11	John Rabbits, .....	Czech, .....	Driver, .....	22	M.	1	1			
	John Duda, .....	Lithuanian, ..	Miner, .....	23	S.	...	...			

TABLE 5.—Non-fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 5	Wasil Wido, .....	Polish, .....	Patcher, .....	17	S.	Audenried No. 4, ....		Slight concussion of brain and laceration of scalp. Caught by cars on gangway.
Feb. 11	George Anspach, ....	American, ..	Laborer, .....	45	M.	Middle Lehigh, .....		Hand cut while blocking a pump. The block slipped and caught him. Outside.
	Stephen Canda, .....	Polish, .....	Driver, .....	18	S.	Middle Lehigh, .....		Arm fractured by being caught by cars on gangway.
12	John Nick, .....	Italian, ....	Miner, .....	44	M.	Middle Lehigh, .....		Head cut and eye injured by explosion of dynamite at face of tunnel.
16	Valentine Tomashefski, .....	Polish, .....	Miner, .....	41	M.	Silver Creek, .....		Face and hands burned by explosion of gas at face of breast.
18	John Sanyo, .....	American, ..	Propman, .....	23	S.	Oneida, .....		Leg bruised by being caught by cars. Outside.
24	George Poligia, .....	Polish, .....	Ashman, .....	47	M.	Maryd, .....		Pelvis fractured. Caught between the door of boiler house and a dumper. Outside.
March 8	George Skela, .....	Polish, .....	Miner, .....	45	M.	Audenried No. 4, ....		Leg fractured while assisting to lift a car.
April 12	John De Salvatore, ...	Italian, ....	Miner, .....	27	M.	Eagle Hill, .....	Schuylkill, ..	Jaw and cheek bone fractured by fall of coal on gangway.
22	Holden Berger, .....	American, ..	Track-helper, ....	20	S.	Buck Mountain, .....		Squeezed between engine and timber on gangway.
June 10	Michael Rehill, .....	Austrian, ..	Laborer, .....	37	S.	Honey Brook No. 5, ..		Foot injured by rush of gob in breast.
14	Joseph Kubiak, .....	Lithuanian, ..	Miner, .....	32	S.	Silver Creek, .....		Hand and face burned by explosion of gas at face of breast.
16	John Bushnock, .....	Austrian, ..	Miner, .....	38	M.	Honey Brook No. 5, ..		Hip dislocated by fall of coal near face of breast.
18	Danko Lacotch, .....	Slavonian, ..	Laborer, .....	56	M.	Honey Brook No. 5, ..		Struck on top of head by a stone that rolled off of slanty. Outside.
22	Lawrence Lagutko, ..	Polish, .....	Miner, .....	31	M.	Eagle Hill, .....		Face and hands burned by explosion of gas at face of breast.
25	Joe Mitchell, .....	Polish, .....	Laborer, .....	19	S.	Audenried No. 4, ....		Head, leg and arm lacerated by fall of coal at face of breast.
July 8	Francis Klem, .....	American, ..	Laborer, .....	22	S.	Buck Mountain, .....		Face and hands burned by explosion of gas at face of breast.
9	Frank Drozi, .....	Austrian, ..	Miner, .....	28	M.	Honey Brook No. 5, ..		Hand and leg injured by rush of coal in slant chute.

TABLE 5.—Continued

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
July 14	Andrew Herutes, ....	Slavonian, ..	Driver, .....	20	S.	Maryd, .....		Arm fractured. Caught between timber on car and top of gangway.
	John Darchalk, .....	Slavonian, ..	Laborer, .....	40	M.	Audenried No. 4, ....		Still fractured by fall of roof at face of shaft.
Aug. 2	{ Joseph Leato, .....	Italian, .....	Miner, .....	30	M.	{ Eagle Hill, .....		Hands and face burned by explosion of gas at face of breast.
Sept. 7	{ Michael Merry, ....	Greek, .....	Laborer, .....	25	M.	{ Eagle Hill, .....		Face and neck burned by explosion of carbide.
	{ Joseph Galasky, ..	Greek, .....	Laborer, .....	28	S.	{ Eagle Hill, .....		Arm fractured by being struck by a piece of rock while unloading car. Outside.
	{ John Fazick, .....	Polish, .....	Laborer, .....	32	M.	{ Eagle Hill, .....		Toes crushed by timber rolling on him. Outside.
	{ Cipp Michael, .....	Polish, .....	Laborer, .....	50	M.	{ Eagle Hill, .....		Head and body injured by being caught by cars on gangway.
23	Butcher Steve, ....	Polish, .....	Timberman, ....	55	M.	Audenried No. 4, ....		Finger cut off by being caught between hands and face of oil. Outside.
28	Robert McElvane, ....	American, ..	Driver, .....	22	S.	Silver Creek, .....		Leg fractured by explosion of blast at face of breast.
	Jubish Adom, .....	Russian, ....	Laborer, .....	51	M.	Audenried No. 4, ....		Face, chest and arm injured by explosion of blast.
Oct. 6	John Yatsko, .....	Slavonian, ..	Miner, .....	35	M.	Audenried No. 4, ....	Schuylkill, ..	Two fingers crushed by car on gangway. Hands, back, face and neck burned by explosion of gas in chute.
9	Mike Billy, .....	Russian, ....	Miner, .....	42	M.	Honey Brook No. 5, ..		Finger cut off by being caught by cars on gangway.
11	Arthur Brown, .....	American, ..	Driver, .....	19	S.	Audenried No. 4, ....		Arm broken by being caught by cars on plane.
	{ Charles Christ, ....	Lithuanian, ..	Miner, .....	24	M.	{ Eagle Hill, .....		Leg broken by fall of slate on gangway.
14	{ Dennis Tobin, ....	American, ..	Driver, .....	19	S.	{ Eagle Hill, .....		Toes crushed by piece of coal falling on him in breaker. Outside.
	{ John Repko, .....	American, ..	Driver, .....	18	S.	{ Honey Brook No. 5, ..		Foot injured by being struck by timber while unloading it on slope.
20	Peter Dagus, .....	Polish, .....	Driver, .....	30	S.	Silver Creek, .....		Leg fractured by being caught by cars. Outside.
21	Anthony Sovatski, ..	Polish, .....	Laborer, .....	22	S.	Silver Creek, .....		
22	Mann Philip, .....	Italian, .....	Laborer, .....	23	M.	Audenried No. 4, ....		
27	Thomas Coper, .....	Slavonian, ..	Miner, .....	40	M.	Audenried No. 4, ....		
Nov. 3	Frank Mike, .....	Italian, .....	Oiler, .....	36	M.	Audenried No. 4, ....		

Nov.	7	Harry Rinker, .....	American, ..	Painter, .....	13	S.	Andenried No. 4, ....	Knee bruised by falling off ladder. Outside.
	8	Ivor Davis, .....	American, ..	Chatman, .....	20	S.	Buck Mountain, .....	Leg sprained. He slipped and fell while signaling engineer.
	12	Polumbo Pascome, ..	Italian, .....	Fireman, .....	29	S.	Andenried No. 4, ....	Hands and face scalded by water from hot ashes. Outside.
	16	Anthony Lambarde, ..	Italian, .....	Driver, .....	22	S.	Morea, .....	Skull fractured by being kicked by a mule on gangway.
	17	Joseph Labudo, .....	Slavonian, ..	Loader, .....	31	M.	Andenried No. 4, ....	Back bruised by being struck by a plank that was thrown from breaker. Outside.
Dec.	3	Metro Hatsko, .....	Slavonian, ..	Laborer, .....	47	M.	Buck Mountain, .....	Leg fractured by fall of slate near face of gangway.
	4	Charles Minswarge, ..	Lithuanian, ..	Driver, .....	19	S.	Silver Creek, .....	Leg broken by mule falling on him on gangway.
	7	John Yearfelch, .....	Polish, .....	Miner, .....	53	M.	Middle Lehigh, .....	Shoulder dislocated by fall of coal in breast.
	12	Frank Schiapa, .....	Polish, .....	Miner, .....	33	M.	Eagle Hill, .....	Head and body injured by fall of roof at face of gangway.
	28	Thomas Seaman, ....	Slavonian, ..	Company man, ..	38	M.	Honey Brook No. 5, ..	Finger injured by being caught by ear on dump. Outside.
	30	John Nester, .....	Russian, ...	Miner, .....	23	S.	Andenried No. 4, ....	Thumb crushed by being struck by a piece of coal at face of gangway.
	31	John Corel, .....	Polish, .....	Chute boss, .....	22	S.	Middle Lehigh, .....	Mouth lacerated by falling down a flight of steps. Outside.

Schuykill, ..

## CONDITION OF COLLIERIES

## LEHIGH AND WILKES-BARRE COAL COMPANY

Andenried No. 4 and Honey Brook No. 5 Collieries.—Ventilation, drainage and condition as to safety, good.

## PHILADELPHIA AND READING COAL AND IRON COMPANY

Silver Creek Colliery.—Ventilation, drainage and condition as to safety, good.

Eagle Hill Colliery.—Ventilation fair. Drainage and condition as to safety, good.

## DODSON COAL COMPANY

Morea Colliery.—Ventilation, drainage and condition as to safety, good.

## MARYD COAL COMPANY

Maryd Colliery.—Ventilation and condition as to safety, good. Drainage bad.

## COXE BROTHERS AND COMPANY, INCORPORATED

Oneida Colliery.—Ventilation, drainage and condition as to safety, good.

## LEHIGH VALLEY COAL COMPANY

Buck Mountain Colliery.—Ventilation, drainage and condition as to safety, good.

## MILL CREEK COAL COMPANY

Middle Lehigh and Wolf Creek Collieries.—Ventilation, drainage and condition as to safety, good.

## EAST LEHIGH COAL COMPANY

East Lehigh Colliery.—Ventilation and condition as to safety, good. Drainage fair.

## PORT CARBON COAL COMPANY

Lucy R. Colliery.—Ventilation and condition as to safety, good. Drainage bad.

## GORMAN AND CAMPION

Bell Colliery.—Ventilation and condition as to safety good. Drainage bad.

## IMPROVEMENTS

## LEHIGH AND WILKES-BARRE COAL COMPANY

Andenried No. 4 Colliery.—Tunnel was driven from the Mammoth to the Lykens vein in No. 9 basin, No. 23 slope.

Inside slope in the Gamma vein shaft basin was driven 600 feet and electric hoist installed.



Honey Brook No. 5 Colliery.—Tunnel was driven from the Lykens to the Buck Mountain vein No. 3 east No. 20 slope.

Tunnel was driven from the Lykens to the Buck Mountain vein No. 4 east No. 20 slope.

#### PHILADELPHIA AND READING COAL AND IRON COMPANY

Silver Creek Colliery.—The tunnel from the East Boston Split vein to the Top Split vein, No. 4 drift, mentioned in last year's report has been finished a distance of 190 feet.

The new drift No. 15 on Skidmore mentioned in last year's report has been finished and is now being robbed.

The 6-inch cast iron fresh water line from Palmer vein dam to connect on the main 6 inch line to colliery has been completed. A 2,000 gallon capacity dam, with concrete breast, has been built at head of pipe line.

Number 9 drift on Skidmore and Bottom Split has been finished and is now being robbed.

A tunnel has been driven from the East Middle Split to Top Split No. 4 drift, a distance of 110 feet.

A tunnel has been driven from the West Top Split, south dip, to Holmes No. 4 drift, a distance of 182 feet.

A tunnel has been driven from the West Top Split, south dip, to Middle Split No. 4 drift, a distance of 60 feet.

A tunnel has been driven from the West Skidmore to the Bottom Split at breast No. 7, No. 1 plane level, a distance of 105 feet.

A tunnel has been driven from the West Bottom Split to the Skidmore, shaft level, a distance of 70 feet.

A tunnel has been driven from the Bottom Split to the Top Split vein, No. 12 drift, a distance of 155 feet.

A tunnel has been driven from the West Middle Split to the Bottom Split, No. 4 drift, a distance of 95 feet.

A tunnel is now being driven from the Top Split to the Holmes, east inside section, No. 4 drift.

A new double track automatic landing is being driven from the West Orchard gangway, No. 4 plane, to the coal shaft.

A series of diamond drill holes have been drilled from the East Middle Split No. 3 plane, and the East Middle Split No. 4 plane, to test the thickness of the barrier pillar between Silver Creek and Kaska William.

A drill room in rock has been driven south from the East Middle Split, No. 4 plane, a distance of 45 feet; and a 4-inch diamond drill hole, drilled horizontal for 193 feet 11 inches, tapped Kaska William water.

An inside slope has been driven in the East Middle Split, No. 3 plane, level, a distance of 206 feet.

A new drift, No. 15, on the Bottom Split vein, has been started.

The gangway on the seven foot vein mentioned in last year's report, to tap Windy Harbor water, starting from No. 11 water hole driven from the West Skidmore, No. 4 plane, has been continued 125 feet. A diamond drill rig will be placed at face of gangway with a view to tapping the above-mentioned water.

A tunnel will be driven from the West Top Split, No. 4 plane, to the Bottom Split, Windy Harbor basin, curve having been turned. Estimated length 54 yards.

Grading has been started for an electric dump car track east of the breaker. It is the intention to have an electric dump car handle and dispose of all the breaker refuse.

Eagle Hill Colliery.—A tunnel has been driven on the 6th lift from No. 73 chute on the West Skidmore gangway, southward, a distance of 200 feet to the Top Split and Bottom Split veins. A gangway has been turned west on the Top Split vein.

A tunnel is being driven on the 6th lift from No. 32 chute on the West Skidmore gangway to the seven foot gangway. This tunnel and the seven foot gangway will replace a portion of the West Skidmore gangway as a haulageway for the coal from Nos. 2 and 3 tunnels.

Work is progressing on the new landing mentioned in last year's report. For a distance of 30 feet on both sides of the shaft the roof of the tunnel is supported by structural steel mine supports.

A concrete battery 3 feet thick has been erected near the bottom of the Holmes slope and after removing the pump, culm pipe etc., the slope was filled with slush to a point within a few feet of the knuckle.

A mule and traveling-way has been driven to the surface from the East Primrose water level gangway in the Primrose slope.

The loaded track tunnel on the 6th. lift has been concreted a distance of 260 feet from the shaft. Several sets of steel mine supports have also been erected in this tunnel.

An addition has been made to the breaker and 2 buckwheat jigs have been installed.

The installation of the electric dump car and the building of the breaker refuse hopper mentioned in last year's report have been completed. The track for this car has been extended a distance of 1,400 feet south of the breaker.

#### MARYD COAL COMPANY

Maryd Colliery.—New pump house, second level, 12 feet high, 18 feet wide and 65 feet long, erected of steel timber.

645 feet culm way in small vein under Orchard vein from 2nd level pump house to surface was erected with steel timber.

Installed 1 Goyne duplex compound pump for 2nd level, 24 by 42 by 14 by 48 inches, with 12 by 18 by 18 inches condenser; also 675 feet of 14-inch wood lined culm pipe.

On first level, No. 1 basin, a tunnel was driven south 212 feet from Top Split cutting four foot and Holmes veins.

On the 2nd. level, 159 feet of tunnel and 160 feet of gangway were driven in Holmes vein for sump.

A tunnel was driven south from the Bottom Split, 2nd level, 355 feet cutting Middle Split and Holmes veins.

Erected fireproof washhouse of hollow tile with steel and cement roof, equipped with 144 steel lockers: 300 H. P. battery of Stirling water tube boilers with 16-inch header connection.

Installed 72-inch No. 9 Sirocco fan for force draft at main boiler plant driven by 15 by 15 inch high speed engine.

Completed reservoir for fresh water on Swift Creek, capacity 10 million gallons.

Installed 1 double 4-foot Lehigh Valley jig in breaker.

## LEHIGH VALLEY COAL COMPANY

Buck Mountain Colliery.—A tunnel 410 feet long was driven from the East Mammoth Bottom Split, south dip, to the East Mammoth Bottom Split, north dip, 2nd level.

The erection of structural steel on the 5th. level bottom for the support of the roof, mentioned in last year's report, has been completed. A ventilation tunnel 297 feet long was driven from the Mammoth Bottom Split, south dip, to the Buck Mountain vein, south dip, on the 5th. level.

The multi-vein fans in the boiler house were replaced by a 12 by 6 foot steel plate fan driven by a 14 by 20 inch Coxe engine. A 3-inch steam line was constructed from the wash-water pump-house to the Mammoth Top Split spoon plane engine house, a distance of 2,500 feet.

## MILL CREEK COAL COMPANY

Middle Lehigh Colliery.—A tunnel 128 feet long was driven in No. 11 slope from the seven foot to the Skidmore. Commenced stripping of the top split of the Mammoth vein second section. Drove 5,506 feet of gangway. Considerable safety work as to guards about machinery, etc., was done. An artesian well 638 feet deep was drilled for boiler feed water.

Wolf Creek Colliery.—Tunnel from Skidmore to Buck Mountain vein in slope was completed, distance 218 feet. A Goyne pump 24 by 10 by 36 inches was installed in the slope. Completed 2,210 feet of stripping on the outcrop of the Scott steel vein. Drove 4,536 feet of gangway. A return tubular boiler plant erected of 450 H. P. boilers. Also erected 2,800 feet of 6-inch steam line from the boilers to the hoisting engine and pumps. Installed an air compressor and pipe line; also a shaker and platform at tipple. A sump was made in the Skidmore vein. Laid 4,500 feet of 2-inch wood pipe line for boiler feed water.

## PORT CARBON COAL COMPANY

Lucy R. Colliery.—A rock slope is being made from the surface 500 feet on 30 degrees pitch, 210 feet have been driven and they expect to complete it in 1916.

Installed 1 electric compressor and 1 electric Cameron pump 3½ by 6 inches.

## MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in Pottsville, May 18, 19, and 20. The Board of Examiners was composed of M. J. Brennan, Mine Inspector, Pottsville; Luke Stiles, Superintendent, Silver Creek; William J. Brennan, Miner, Port Carbon; James Curran, Miner, Silver Creek.

The following persons passed a satisfactory examination and were granted certificates:

## ASSISTANT MINE FOREMEN

Charles Gallagher, Silver Creek; William Tennant, Tamaqua.



## NINETEENTH DISTRICT

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SCHUYLKILL COUNTY

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Pottsville, Pa., February 26, 1916.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor of transmitting herewith my annual report as Inspector of Mines of the Nineteenth Anthracite District for the year ending December 31, 1915,

Respectfully submitted,

MICHAEL J. BRENNAN,

Inspector.



## SUMMARY OF STATISTICS

Number of collieries, .....	17
Number of mines, .....	49
Number of mines in operation, .....	45
Number of tons of coal shipped to market, .....	2,910,036
Number of tons used at mines for steam and heat, .....	510,566
Number of tons sold to local trade and used by employes, .....	43,421
Number of tons produced, .....	3,464,023
Number of tons produced by compressed air machines, ..	.....
Number of tons produced by electrical machines, .....	.....
Number of persons employed inside of mines, .....	4,989
Number of persons employed outside, .....	2,402
Number of fatal accidents inside of mines, .....	25
Number of fatal accidents outside, .....	5
Number of non-fatal accidents inside of mines, .....	32
Number of non-fatal accidents outside, .....	5
Number of tons of coal produced per fatal accident inside, .....	138,561
Number of tons produced per fatal accident outside, ....	692,805
Number of tons produced per fatal accident inside and outside, .....	115,467
Number of persons employed per fatal accident inside, ..	200
Number of persons employed per fatal accident outside, ..	480
Number of persons employed per fatal accident inside and outside, .....	246
Number of persons employed per non-fatal accident inside, ..	156
Number of persons employed per non-fatal accident outside, .....	480
Number of persons employed per non-fatal accident inside and outside, .....	200
Number of wives made widows, .....	18
Number of children made orphans, .....	24
Number of steam locomotives used inside of mines, ....	1
Number of steam locomotives used outside, .....	46
Number of compressed air locomotives used inside, ....	1
Number of compressed air locomotives used outside, ....	.....
Number of electric motors used inside, .....	25
Number of electric motors used outside, .....	.....
Number of gasoline locomotives used inside, .....	.....
Number of fans in use, .....	40
Number of furnaces in use, .....	.....
Number of gaseous mines in operation, .....	32
Number of non-gaseous mines in operation, .....	13
Number of new mines opened, .....	.....
Number of old mines abandoned, .....	.....



## TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
Philadelphia and Reading Coal and Iron Company, ....	1,365,221
St. Clair Coal Company, .....	366,804
Lytle Coal Company, .....	355,030
Pine Hill Coal Company, .....	313,305
Oak Hill Coal Company, .....	296,840
Buck Run Coal Company, .....	286,595
Darkwater Coal Company, .....	137,026
Mt. Hope Coal Company, .....	133,730
White and Company, .....	100,185
Emperor Coal Company, .....	54,622
Ellsworth Coal Company, .....	34,238
Butcher Creek Coal Company, .....	16,000
Black Heath Coal Company, .....	4,427
Total, .....	<u>3,464,023</u>

## Production by Counties

Schuylkill, .....	<u><u>3,464,023</u></u>
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TABLE B.—Fatal and non-fatal accidents inside and outside of mine;; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Philadelphia and Reading Coal and Iron Co.,	8	2	10	9	1	10	170,551	151,691	2,785	905	3,690	273	452	243	905
St. Clair Coal Co.,	4	1	5	5	1	6	91,701	183,402	353	343	734	88	318	176	176
White Sulphur Springs Coal Co.,	3	1	4	3	1	4	118,243	190,719	610	244	854	203	256	87	244
Yates Hill Coal Co.,	2	1	3	2	1	3	156,652	74,330	915	194	707	256	210	256	256
Oak Hill Coal Co.,	6	1	7	4	4	8	49,443	71,649	451	310	610	67	210	100	100
Buck Run Coal Co.,	1	1	2	4	1	5	286,595	133,730	152	141	592	451	.....	114	141
Darkwater Coal Co.,	.....	.....	.....	.....	.....	.....	.....	.....	81	233	314	.....	.....	81	81
Mt. Hope Coal Co.,	.....	.....	.....	1	1	2	157	133,730	57	87	144	.....	.....	57	87
White and Co.,	1	1	2	3	1	4	32,395	32,395	154	82	236	.....	.....	51	51
Ellsworth Coal Co.,	.....	1	1	.....	.....	.....	.....	.....	77	53	130	.....	.....	.....	.....
Miscellaneous Companies,	.....	.....	.....	.....	.....	.....	.....	.....	37	57	94	.....	.....	.....	.....
Totals and averages,	25	5	30	32	5	37	138,561	108,251	4,989	2,402	7,391	.....	480	156	480

TABLE C.—Causes of Fatal Accidents Inside and Outside of Mines

	Months												Totals	Percentages
	January	February	March	April	May	June	July	August	September	October	November	December		
Inside														
Falls of coal, .....	...	...	2 <sup>2</sup>	...	1	1	1	1 <sup>2</sup>	...	...	...	...	6	24.00
Falls of slate, .....	...	...	2 <sup>2</sup>	...	1	...	...	...	...	1	...	...	6	24.00
Falls of roof, .....	...	1	...	...	...	...	...	...	...	...	...	...	1	4.00
Mine cars, .....	...	...	1	...	...	1	1	1	...	1	...	...	5	20.00
Explosions of gas, ..	3	...	...	...	...	...	...	...	1	...	...	...	4	16.00
Blasts, premature and otherwise, .....	...	1	...	...	...	...	...	...	...	...	...	...	1	4.00
Falling into slopes, etc., .....	...	...	...	...	...	...	...	...	1	...	...	...	1	4.00
Struck by prop, .....	...	...	...	...	...	1	...	...	...	...	...	...	1	4.00
Totals, .....	3	2	5	...	2	3	2	4	2	2	...	...	25	100.00
Outside														
Cars, .....	1	...	...	...	...	...	2	...	...	...	...	...	3	60.00
Falling, .....	...	...	...	...	1	...	...	...	...	...	...	...	1	20.00
Struck by windlass, ..	...	...	...	...	...	...	...	...	1	...	...	...	1	20.00
Totals, .....	1	...	...	...	1	...	2	...	1	...	...	...	5	100.00
Grand totals inside and outside, .....	4	2	5	...	3	3	4	4	3	2	...	...	30	.....

TABLE D.—Causes of Non-Fatal Accidents Inside and Outside of Mines

	Months												Totals	Percentages	
	January	February	March	April	May	June	July	August	September	October	November	December			
Inside															
Falls of coal, .....	...	...	1	...	2	...	1	...	...	1	...	...	6	18.75	
Falls of slate, .....	...	...	...	1	...	1	1	...	...	1	2	...	6	18.75	
Mine cars, .....	1	...	1	1	...	...	...	...	2	...	...	...	5	15.63	
Explosions of gas, .....	1	2	...	...	...	2	1	...	...	2	1	...	9	28.13	
Blasts, premature and otherwise, .....	...	1	1	1	1	...	...	...	...	...	...	...	4	12.50	
Machinery, .....	...	...	...	...	...	1	...	...	...	...	...	...	1	3.12	
Struck by piece of coal, .....	1	...	...	...	...	...	...	...	...	...	...	...	1	3.12	
Totals, .....	3	3	3	3	3	4	3	...	2	4	4	...	32	100.00	
Outside															
Cars, .....	...	...	1	...	...	...	...	...	...	1	...	...	2	40.00	
Machinery, .....	...	...	...	...	...	...	...	...	...	...	...	1	1	20.00	
Struck by piece of rock, .....	...	...	...	...	...	...	...	1	...	...	...	...	1	20.00	
Falling, .....	...	...	1	...	...	...	...	...	...	...	...	...	1	20.00	
Totals, .....	...	...	2	...	...	...	...	1	...	1	...	1	5	100.00	
Grand totals inside and outside, .....	3	3	5	3	3	4	3	1	2	5	4	1	37	.....	

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
Inside													
Miners, .....	3	2	3	...	1	2	1	2	...	...	...	...	14
Miners' laborers, .....	...	...	1	...	1	1	...	1	...	2	...	...	6
Drivers and runners, .....	...	...	1	...	...	...	...	1	...	...	...	...	2
Company men, .....	...	...	...	...	...	...	1	...	...	...	...	...	1
Fan turners, .....	...	...	...	...	...	...	...	...	1	...	...	...	1
Machinists, .....	...	...	...	...	...	...	...	...	1	...	...	...	1
Totals, .....	3	2	5	...	2	3	2	4	2	2	...	...	23
Outside													
Breaker bosses, .....	...	...	...	...	1	...	...	...	...	...	...	...	1
Repairmen, .....	1	...	...	...	...	...	...	...	...	...	...	...	1
Laborers, .....	...	...	...	...	...	...	2	...	1	...	...	...	3
Totals, .....	1	...	...	...	1	...	2	...	1	...	...	...	5
Grand totals inside and outside, .....	4	2	5	...	3	3	4	4	3	2	...	...	30

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
Inside													
Miners, .....	2	3	1	2	2	1	3	...	...	4	3	...	21
Miners' laborers, .....	...	...	1	...	1	1	...	...	...	...	1	...	4
Drivers and runners, .....	1	...	...	1	...	...	...	...	...	...	...	...	3
Company men, .....	...	...	1	...	...	1	...	...	1	...	...	...	3
Engineers, .....	...	...	...	...	...	1	...	...	...	...	...	...	1
Totals, .....	3	3	3	3	3	4	3	...	2	4	4	...	32
Outside													
Blacksmiths and carpenters,...	...	...	1	...	...	...	...	...	...	...	...	...	1
Slatepickers (boys), .....	...	...	...	...	...	...	...	...	...	...	1	...	1
Laborers, .....	...	...	1	...	...	...	...	1	...	1	...	...	3
Totals, .....	...	...	2	...	...	...	...	1	...	1	...	1	5
Grand totals inside and outside, .....	3	3	5	3	3	4	3	1	2	5	4	1	37

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months											
	Totals	December	November	October	September	August	July	June	May	April	March	February
American, .....	8	1	1	1	2	2	1	1	1	1	1	1
Polish, .....	1	1	1	1	1	1	1	1	1	1	1	1
Hungarian, .....	1	1	1	1	1	1	1	1	1	1	1	1
Italian, .....	2	1	1	1	1	1	1	1	1	1	1	1
Slavonian, .....	10	1	1	1	1	1	1	1	1	1	1	1
Lithuanian, .....	4	1	1	1	1	1	1	1	1	1	1	1
Austrian, .....	2	1	1	1	1	1	1	1	1	1	1	1
Russian, .....	2	1	1	1	1	1	1	1	1	1	1	1
Totals, .....	30	1	1	2	3	4	4	3	3	3	3	2

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months											
	Totals	December	November	October	September	August	July	June	May	April	March	February
American, .....	10	1	1	1	1	1	1	1	2	1	2	1
Polish, .....	3	1	1	1	1	1	1	1	1	1	1	1
Hungarian, .....	3	1	1	1	1	1	1	1	1	1	1	1
Slavonian, .....	6	1	1	1	1	1	1	1	1	1	1	1
Lithuanian, .....	6	1	1	1	1	1	1	1	1	1	1	1
Austrian, .....	6	1	1	1	1	1	1	1	1	1	1	1
Russian, .....	3	1	1	1	1	1	1	1	1	1	1	1
Totals, .....	37	1	4	5	2	1	3	4	3	3	5	3

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Philadelphia and Reading Coal and Iron Co.																
Otto Colliery:																
Otto White Ash, .....	Drift, .....	Gaseous, ..	{ Fan, ...	15	5.	3.5	84	1.25	Guibal, ..	Steam, ..	..	8	67,720	102,000	70,610	531
Otto Mud, .....	Drift, .....	Non-gas., ..	{ Fan, ...	21	7.	6.	80	1.5	Guibal, ..	Steam, ..	..	5	72,415	25,000	81,430	
Otto, .....	Shaft, .....	Gaseous, ..	Fan, .....	12	4.2	3.6	40	1.	Guibal, ..	Steam, ..	..	2	30,300	35,320	35,320	
Otto Red Ash, .....	Slope, .....	Gaseous, ..	Fan, .....	18	6.	5.6	45	.6	Guibal, ..	Steam, ..	..	2	23,869	25,782	25,782	
Wadesville Colliery:																
Wadesville, .....	Slope, .....	Gaseous, ..	Fan, .....	21	7.	6.2	73	1.6	Guibal, ..	Steam, ..	..	9	20,300	80,000	88,455	
Wadesville, .....	Shaft, .....	Gaseous, ..	Fan, .....	21	7.	6.2	73	1.6	Guibal, ..	Steam, ..	..	22	173,930	137,870	195,815	
Wadesville, .....	Slope, .....	Gaseous, ..	Fan, .....	18	6.	5.6	42	.4	Guibal, ..	Steam, ..	..	7	26,520	22,755	26,520	
Wadesville, Primrose, ..	Slope, .....	Gaseous, ..	Fan, .....	15	5.	4.6	56	1.2	Guibal, ..	Steam, ..	..	4	35,170	15,810	19,945	498
Wadesville, Beechwood, ..	Drift, .....	Gaseous, ..	Fan, .....	18	6.	5.6	42	.4	Guibal, ..	Steam, ..	..	7	26,520	22,755	26,520	
Pine Knot Colliery:																
Pine Knot Number 1, ..	{ Shaft, ..	Gaseous, ..	Fan, .....	21	7.	6.	78	1.8	Guibal, ..	Steam, ..	..	6	53,015	35,500	63,490	441
Pine Knot, Number 2, ..	{ Shaft, ..	Gaseous, ..	Fan, .....	21	7.	6.	78	1.8	Guibal, ..	Steam, ..	..	9	53,015	35,500	63,490	
Thomaston, Section ..	{ Slope, ...	Gaseous, ..	Fan, .....	18	6.	5.2	98	1.4	Guibal, ..	Steam, ..	..	9	70,365	62,206	78,800	
Thomaston, ..	{ Slope, ...	Gaseous, ..	Fan, .....	18	6.	5.2	98	1.4	Guibal, ..	Steam, ..	..	9	70,365	62,206	78,800	
Thomaston, Crosby, ..	Drift, .....	Non-gas., ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Phoenix Park Colliery:																
Phoenix Park, Diamond, ..	Slope, .....	Gaseous, ..	Fan, .....	15	5.	3.5	90	1.4	Guibal, ..	Steam, ..	..	24	143,010	110,420	161,580	434
Phoenix, Peach Mount, ..	Slope, .....	Gaseous, ..	Fan, .....	21	7.	6.	90	2.	Guibal, ..	Steam, ..	..	8	57,425	48,825	59,175	
Phoenix Park, Number 6, ..	Slope, .....	Gaseous, ..	Fan, .....	15	5.	3.5	115	1.	Guibal, ..	Steam, ..	..	8	57,425	48,825	59,175	

\*Idle.



[illegible]

\*Title

†Broken strata.



TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Philadelphia and Reading Coal and Iron Co.	{ Schuylkill, }	E. E. Kaercher, ....	Pottsville, ....	E. J. Welmer, ....	Pottsville, ....	Philadelphia and Reading
Otto, .....		W. T. Smythe, ....	Pottsville, ....	.....	.....	Philadelphia and Reading
Wadesville, .....		Robert A. Quin, ....	Wilkes-Barre, ....	D. V. Randall, ....	Minersville, ....	Pennsylvania
Pine Knot, .....		George M. Keiser, ..	Minersville, ....	.....	.....	Pennsylvania
Phoenix Park, .....		Thomas M. Righter, ..	Mt. Carmel, ....	C. F. Cartwright, ..	Doncott, ....	Philadelphia and Reading
Glendover, .....		James B. Neale, ....	Minersville, ....	.....	.....	Philadelphia and Reading
John Veith, .....		James B. Neale, ....	Minersville, ....	John Conway, ....	Pottsville, ....	Pennsylvania
Anchor Washery, .....		I. D. Beahme, ....	Port Carbon, ....	.....	.....	Philadelphia and Reading
St. Clair Coal Co.		Robert White, ....	Pottsville, ....	.....	.....	Philadelphia and Reading
St. Clair, .....		George M. Keiser, ..	Pottsville, ....	.....	.....	Pennsylvania
Lytle Coal Co.	Schuylkill, .....	George M. Keiser, ..	Pottsville, ....	.....	.....	Philadelphia and Reading
Lytle, .....	Schuylkill, .....	George M. Keiser, ..	Pottsville, ....	.....	.....	Philadelphia and Reading
Pine Hill Coal Co.	Schuylkill, .....	George M. Keiser, ..	Pottsville, ....	.....	.....	Philadelphia and Reading
Pine Hill, .....	Schuylkill, .....	George M. Keiser, ..	Pottsville, ....	.....	.....	Philadelphia and Reading
Oak Hill Coal Co.	Schuylkill, .....	George M. Keiser, ..	Pottsville, ....	.....	.....	Philadelphia and Reading
Oak Hill, .....	Schuylkill, .....	George M. Keiser, ..	Pottsville, ....	.....	.....	Philadelphia and Reading
Buck Run Coal Co.	Schuylkill, .....	George M. Keiser, ..	Pottsville, ....	.....	.....	Philadelphia and Reading
Buck Run, .....	Schuylkill, .....	George M. Keiser, ..	Pottsville, ....	.....	.....	Philadelphia and Reading
Darkwater Coal Co.	Schuylkill, .....	George M. Keiser, ..	Pottsville, ....	.....	.....	Philadelphia and Reading
Newcastle, .....	Schuylkill, .....	George M. Keiser, ..	Pottsville, ....	.....	.....	Philadelphia and Reading
Mt. Hope Coal Co.	Schuylkill, .....	George M. Keiser, ..	Pottsville, ....	.....	.....	Philadelphia and Reading
Mt. Hope, .....	Schuylkill, .....	George M. Keiser, ..	Pottsville, ....	.....	.....	Philadelphia and Reading
White and Co.	Schuylkill, .....	George M. Keiser, ..	Pottsville, ....	.....	.....	Philadelphia and Reading
Howard, .....	Schuylkill, .....	George M. Keiser, ..	Pottsville, ....	.....	.....	Philadelphia and Reading
Emperor Coal Co.	Schuylkill, .....	George M. Keiser, ..	Pottsville, ....	.....	.....	Philadelphia and Reading
Emperor Washery, .....	Schuylkill, .....	George M. Keiser, ..	Pottsville, ....	.....	.....	Philadelphia and Reading
Ellsworth Coal Co.	Schuylkill, .....	George M. Keiser, ..	Pottsville, ....	.....	.....	Philadelphia and Reading
Ellsworth, .....	Schuylkill, .....	George M. Keiser, ..	Pottsville, ....	.....	.....	Philadelphia and Reading
Butcher Creek Coal Co.	Schuylkill, .....	George M. Keiser, ..	Pottsville, ....	.....	.....	Philadelphia and Reading
Laurel Run, .....	Schuylkill, .....	George M. Keiser, ..	Pottsville, ....	.....	.....	Philadelphia and Reading
Black Heath Coal Co.	Schuylkill, .....	George M. Keiser, ..	Pottsville, ....	.....	.....	Philadelphia and Reading
Black Heath, .....	Schuylkill, .....	George M. Keiser, ..	Pottsville, ....	.....	.....	Philadelphia and Reading

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Philadelphia and Reading Coal and Iron Co.	Schuylkill,	258,150	64,940	1,430	324,510	232	714	1	4	.....	88,412	44,338	85
Otto		278,747	59,101	1,783	319,631	235	664	4	4	.....	46,990	97,040	57
Wadesville		290,691	58,563	2,033	281,277	215	723	2	.....	15,125	157,857	26,413	60
Pine Knot		191,568	30,068	2,485	224,151	229	587	3	.....	.....	57,898	98,039	63
Phoenix Park		161,622	16,506	.....	178,128	*	324	.....	.....	.....	109,463	8,491	51
Glendower*		207	.....	.....	207	†	21	.....	.....	.....	225	.....	2
John Veith,†	Schuylkill,	1,110,985	209,198	7,721	1,327,904	.....	3,033	10	10	16,925	460,845	274,321	318
Anchor Washery,		32,644	2,043	2,610	37,317	95	57	.....	.....	.....	792	.....	.....
Totals,		1,143,649	211,241	10,331	1,365,221	.....	3,090	10	10	16,925	461,637	274,321	318
St. Clair,		289,832	69,025	7,947	366,804	241	701	5	2	260,775	70,968	.....	45
St. Clair Coal Co.		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lytle,		272,513	72,400	10,117	355,030	240	854	3	8	.....	29,115	110,792	69
Lytle Coal Co.	Schuylkill,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pine Hill Coal Co.		273,314	38,600	1,391	313,305	272	707	2	2	60,000	68,675	72,000	36
Pine Hill,		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oak Hill,	Schuylkill,	252,689	42,000	2,151	296,840	280	610	7	4	1,250	144,500	65,000	53
Oak Hill Coal Co.		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

†Coal prepared at Otto breaker.

\*Coal prepared at Pine Knot breaker.

Buck Run Coal Co.	Schuylkill, ..	256,996	23,800	799	286,595	256	592	1	5	3,225	151,052	.....	14
Darkwater Coal Co.	Schuylkill, ..	109,388	27,000	638	137,026	264	233	.....	1	.....	57,691	.....	16
Newcastle, ..	Schuylkill, ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9
Mt. Hope Coal Co.	Schuylkill, ..	120,093	7,200	6,437	133,730	245	144	.....	2	.....	1,600	.....	9
Howard, ..	White and Co.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Emperor Coal Co.	Schuylkill, ..	91,679	8,000	506	100,185	278	236	1	3	175	10,400	7,120	12
Emperor Washery, ..	Schuylkill, ..	53,922	700	.....	54,622	274	35	.....	.....	.....	.....	.....	.....
Ellsworth Coal Co.	Schuylkill, ..	32,361	1,800	77	34,238	297	130	1	.....	.....	12,500	.....	5
Ellsworth, ..	Schuylkill, ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Butcher Creek Coal Co.	Schuylkill, ..	12,406	3,500	94	16,000	216	40	.....	.....	.....	6,000	.....	4
Laurel Run, ..	Schuylkill, ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Black Heath Coal Co.	Schuylkill, ..	1,194	300	2,933	4,427	250	19	.....	.....	.....	3,600	.....	3
Black Heath, ..	Schuylkill, ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grand totals, ..	.....	2,910,036	510,566	43,421	3,464,023	.....	7,391	30	37	312,350	1,017,138	529,233	584

TABLE 2.—Part 2  
Number and kinds of boilers and locomotives in use, number of steam engines, pumps, electric dynamos and air compressors in use, etc.

Names of Operators	County	Number of Boilers				Locomotives				Total horse power	Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Gasoline	Steam	Air	Electric							
Philadelphia and Reading Coal and Iron Co., .....	Schuylkill,	2	400	77	13,065	13,065	.....	17	1	4	220	28,742	21	29,887	10,603	3	2
St. Clair Coal Co., .....		.....	.....	18	2,700	3,100	.....	13	.....	6	22	3,000	3	2,250	1,800	3	3
Little Coal Co., .....		.....	.....	27	3,900	3,900	.....	1	.....	4	21	7,287	1	2,500	1,417	4	4
Pine Hill Coal Co., .....		.....	.....	4	3,000	3,000	.....	.....	.....	6	22	2,020	4	6,000	1,800	2	2
Oak Hill Coal Co., .....		.....	.....	5	2,500	2,500	.....	5	.....	.....	20	1,950	2	2,000	1,100	.....	.....
Back Run Coal Co., .....		.....	.....	9	1,800	1,800	1	3	.....	5	26	1,020	5	9,500	1,000	2	3
Barkwater Coal Co., .....		.....	.....	6	1,800	1,800	.....	.....	.....	.....	16	805	3	4,000	1,300	.....	1
Whitcomb Coal Co., .....		.....	.....	7	1,200	1,200	.....	4	.....	.....	11	725	.....	.....	.....	.....	.....
Whitcomb Coal Co., .....		.....	.....	5	800	800	.....	.....	.....	.....	16	677	4	2,500	900	.....	.....
Emperor Coal Co., .....		.....	.....	6	675	675	.....	1	.....	.....	4	70	.....	.....	.....	.....	.....
Ellsworth Coal Co., .....		.....	.....	5	200	200	.....	.....	.....	.....	4	70	.....	.....	.....	.....	.....
Butcher Creek Coal Co., .....		.....	.....	3	300	300	.....	3	.....	.....	8	270	2	1,350	500	.....	.....
Black Heath Coal Co., .....		.....	.....	1	300	300	.....	.....	.....	.....	11	350	.....	450	.....	.....	.....
.....		.....	.....	1	120	120	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals, .....	.....	2	400	170	30,860	31,260	1	47	3	25	397	46,516	49	60,437	19,870	14	9



TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside										Outside								Grand total			
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks		All other employes	Total outside	
Philadelphia and Reading	Schuylkill,	9	59	...	734	213	135	5	20	397	613	2,185	...	11	44	165	91	37	18	539	905	3,090	
Coal and Iron Co., .....		2	...	7	180	68	19	43	4	...	...	68	453	1	3	21	45	40	20	4	214	348	701
St. Clair Coal Co., .....		1	3	14	262	98	42	2	9	33	...	146	610	1	1	16	42	68	16	8	244	854	1,254
Lytic Coal Co., .....		1	2	8	203	141	39	10	3	...	...	105	513	2	1	24	18	35	16	5	93	194	707
Pine Hill Coal Co., .....		1	1	...	...	...	...	...	...	...	...	...	...	1	1	18	33	16	1	...	96	210	610
Oak Hill Coal Co., .....		1	1	11	296	46	32	8	4	74	...	18	409	1	1	16	29	34	28	5	96	210	610
Buck Run Coal Co., .....		1	1	1	147	155	15	5	4	2	...	105	451	...	1	11	18	18	1	3	89	141	592
Darkwater Coal Co., .....		1	1	2	44	45	15	...	...	...	...	34	152	...	1	6	12	11	1	...	48	81	233
MT. Hope Coal Co., .....		1	1	...	26	29	3	...	...	...	...	...	...	...	1	3	16	10	3	1	50	87	144
White and Co., .....		2	1	...	57	53	9	...	1	23	...	8	154	...	3	3	19	15	4	...	44	82	256
Emperor Coal Co., .....		1	1	...	...	...	...	...	...	...	...	...	...	...	1	2	6	6	2	1	21	35	...
Ellsworth Coal Co., .....		1	1	1	35	15	4	...	2	19	...	...	...	...	1	1	4	5	...	...	34	53	130
Butcher Creek Coal Co., ..		1	1	...	8	11	2	...	...	...	...	...	25	...	1	...	...	6	2	...	5	15	40
Black Heath Coal Co., ..		1	1	...	6	2	1	...	...	2	...	...	12	...	...	...	...	...	...	...	3	5	19
Totals, .....		22	67	48	1,908	870	316	43	53	564	1,098	4,989	11	26	148	375	335	130	49	1,328	2,402	7,391	



TABLE 4.—Fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 9	Robert Fisher, .....	American..	Miner, .....	28	S.	...	...	Pine Hill, ....	Schuylkill.	Fatally burned by explosion of gas. His partner went to prepare a shot in heading and Fisher returned to face with naked light and ignited the gas. Died January 14.
26	Michael Gidus, .....	Slavonian..	Repairman, ..	30	M.	1	2	St. Clair, ....		Fatally injured. He stooped to pick up pin to couple car that was standing on track to car and truck of boards that were being hoisted near top of slope and in doing so he caught his head and neck and died. Outside. Died January 30.
29	{ Andrew Cotsack, .. John Malchick, ....	Slavonian.. Slavonian..	Miner, .....	42	M.	1	1	{ Oak Hill, .... .....		Fatally burned by explosion of gas. Malchick went to face of adjoining breast with naked light to measure thickness of pillar they were skipping after being warned by the fire boss that there was gas at the face. Malchick died February 7, and Cotsack February 8.
Feb. 8	Stephen Poplinchack, ..	Slavonian..	Miner, .....	40	M.	1	....	St. Clair, ....		Fatally injured by premature blast. He ignited blast at face of breast and the blast exploded before he could get away. Died February 10.
27	John Blowhue, .....	Slavonian..	Miner, .....	38	M.	1	4	St. Clair, ....		Killed by fall of rock at face of breast. The top rock commenced to move and he went to face to remove his tools and was caught by the fall.
March 3	Joseph Zemoskie, ....	Slavonian..	Miner, .....	35	M.	1	....	St. Clair, ....		Killed by fall of coal at face of breast while trimming down loose pieces after blast.
9	Eugene Depauly, ....	Italian, .....	Miner, .....	27	S.	....	....	Pine Hill, ..		Killed by fall of slate while creeping under dividing slate at face of breast to get drill to pull the slate down.
10	George McCool, .....	American..	Miner, .....	19	S.	....	....	Buck Run, ....		Killed by fall of top coal in drilled hole and by fall of bench of coal near pillar face and while waiting for the miner to bring shot the coal fell.

TABLE 4.—Continued

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
March 18	Anthony Bartnick,...	Lithuanian,	Miner, .....	43	M.	1	....	Lytle, .....	Schnylkill,	Fatally injured by fall of top slate while sinking pier hole near face of breast. On the way home.
	Simon Solo, .....	Slavonian..	Driver, .....	33	M.	1	....	Oak Hill, ....		Fatally injured. He was leading team of mules around gangway curve, and when the team arrived in main tunnel he jumped on front of car and was caught by frame of car against tunnel rib. Died on the way to hospital.
May	John Kutzwa, .....	Austrian, ..	Miner, .....	33	M.	1	3	Otto, .....		Fatally injured by fall of top slate while scraping dirt from drill hole at face of chute. Died the same day.
8	Anthony Yerkes, ....	Lithuanian,	Breaker boss, ..	21	S.	....	....	Oak Hill, ....		Fatally injured. He was removing refuse from coal pocket in breaker with hose and in some unknown manner he fell and struck his head on the side of a piece of timber. Outside. Died the same day.
21	Michael Beratsko, ..	Slavonian..	Miner's laborer, .....	36	M.	1	....	St. Clair, ....		Killed by fall of coal while working alongside of pillar in breast robbing.
June 17	Michael Hinkle, ....	American, ..	Miner, .....	30	M.	1	3	Oak Hill, ....		Skull fractured. He was going up to face of chute that he was driving, when a piece of slate fell at face. The slate rushed down the chute and struck and dislodged one of the brattice props, which struck him on the head. Died the following day.
21	John Mockl, .....	Slavonian..	Miner's laborer, ..	36	M.	1	1	Howard, .....		Killed by runaway car on slope. When pushing car over knuckle of slope, the car rolled back and struck him near bottom and caught Mockl near bottom of slope.
29	Paul Maknack, .....	Russian, ....	Miner, .....	43	M.	1	3	Phoenix Park,		Fatally injured by fall of top coal while loading car at face of breast. Died July 2.
July 7	John Honesz, .....	Slavonian, ..	Miner, .....	41	M.	1	2	Oak Hill, ....		Killed by fall of coal while trimming loose pieces of coal from pillar after blast.

July	9	Savario Cochardino, ...	Italian, .....	Laborer, .....	31	S.	....	....	Wadesville, ..	Killed by being caught by clay dumper while assisting to dump clay dumper on stripping, part of the clay and rock remained in the dumper which threw the weight to one side and caused the dumper to tilt from the track. He was injured by being struck by the wheel of empty railroad car under the breaker, with his back turned to car approaching. His fellow laborers called to him to warn him, and he jumped to one side and was caught between car and plank. Outside. Died July 21.
	19	Anthony Corack, ....	Austrian, ..	Laborer, .....	20	S.	....	....	Wadesville, ..	Fatally injured by fall of slate while removing pillars. He was coming out of tunnel with mule and trip of cars. After turning curve, the mule turned to upper side of gangway and Heenan was caught between mule and car. Died September 1.
	29	John Hughes, .....	American, ..	Company men.	19	S.	....	....	Pine Knot, ..	Fatally injured by fall of top coal. He went to face of pillar to trim loose pieces down, after a blast, when the coal fell on him. Died September 2.
Aug.	5	Michael Burba, .....	Cathuanian, ..	Miner's laborer.	22	S.	....	....	Phoenix Park, ..	Fatally injured while raising door in dump with windlass crank slipped from his hand and struck him on the head. Outside. Died September 11.
	26	Frank Bernitsky, ....	Polish, .....	Miner, .....	35	M.	1	1	Wadesville, ..	Fatally injured by explosion of gas. He was standing on gangway when a blast was fired at face of gangway. A short time after the blast was fired there was an explosion of gas which knocked Delaney down. Died the same day.
	31	John Heenan, .....	American, ..	Driver, .....	27	S.	....	....	Wadesville, ...	Killed by falling down slope. He was helping to raise column pipes in slope with chain and hook. The wayward was in an attempt to save himself fell down the slope, a distance of 35 feet.
	31	Michael Boyer, .....	American, ..	Miner, .....	54	M.	1	....	Oak Hill, ....	Fatally injured by fall of top slate while pulling coal from side of pillar into chute. Died October 19.
Sept.	11	Thomas Fudock, ....	Hungarian, ..	Laborer, .....	45	M.	1	3	Ellsworth, ....	Fatally injured by being caught between mine car and door frame. Died October 22.
	27	Edward Delaney, ....	American, ..	Fan turner, ..	65	S.	....	....	Pine Knot, ..	
	20	Robert Stevens, .....	American, ..	Machinist, ....	62	M.	1	....	Lytle, .....	
Oct.	18	Klevic Shekitus, .....	Cathuanian, ..	Miner's laborer.	21	S.	....	....	Lytle, .....	
	21	Alexander Skatch, ...	Russian, ....	Miner's laborer.	36	....	....	....	Phoenix Park, ..	

Schnytkill,

TABLE 5.—Non-fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 29	Oscar Bell, .....	American, ..	Miner, .....	38	S.	Pine Hill, .....		Face and hands burned by explosion of gas at face of breast. While igniting fuse attached to shot, with tobacco pipe, he ignited gas.
	Charles Rodgers, ....	Lithuanian, ..	Driver, .....	22	S.	Oak Hill, .....		Body squeezed. He jumped from cars to speed his team of mules and in attempting to get on the cars he slipped and fell from them.
	Peter Zurock, .....	Polish, .....	Miner, .....	28	M.	Wadesville, .....		Leg fractured. While running coal from breast into chute a piece of coal rolled from the pile and struck him.
Feb. 3	{ Wash Farras, .....	Austrian, ..	Miner, .....	33	M.	{ Wadesville, .....		{ Face and neck burned by gas. While tamping blast at face of breast, Opeat removed the top from his safety lamp to improve the light and ignited the gas.
	{ Frank Opeat, .....	Austrian, ..	Miner, .....	24	M.			
18	Joseph Schwarzanav- age, .....	Russian, ....	Miner, .....	24	S.	Lytle, .....	Schuykill,	Head and body injured. He was tamping charge of dynamite at face of breast with steel drill when charge exploded.
March 8	Frank Hostena, ....	Slavonian, ..	Miner's laborer, ..	28	M.	Howard, .....		Head injured by fall of coal at face of breast while loading car.
18	Thomas Quinn, .....	American, ....	Miner, .....	22	S.	Oak Hill, .....		Face and hands injured. He was drilling out charge of powder at face of breast with drill when charge exploded.
	John King, .....	American, ..	Laborer, .....	23	S.	Phoenix Park, .....		Arm crushed. Caught between bumpers while coupling cars on breaker tip. Outside.
29	William Ramsey, ..	American, ..	Carpenter, .....	39	M.	Buck Run, .....		Leg fractured. While repairing breaker he stepped on a plank that was laid over opening in floor and one end of plank slipped from its support, causing him to fall through opening. Outside.
31	John Andrew, .....	Slavonian, ..	Company man, ..	29	M.	Buck Run, .....		Toe crushed. Caught between car bumper and track while riding down slope on front of car. The bumper struck track.
April 15	Adolph Wablick, ....	Russian, ....	Miner, .....	30	S.	Lytle, .....		Head and shoulder injured by blast through heading from adjoining breast.



April	19	Augusta Osana, .....	Austrian, ..	Miner, .....	26	S.	Pine Hill, .....	Leg fractured by fall of slate that he was trying to pull down at face of breast. Hand lashed. While attempting to close wheel caught him in front of moving car the
	20	George Kovash, Jr., ..	Hungarian, ..	Driver, .....	24	M.	Mount Hope, .....	Leg fractured by fall of coal while erecting set of timber on gangway.
May	18	Frank Balonis, .....	Lithuanian, ..	Miner's laborer, ..	32	M.	Phoenix Park, .....	Ankle fractured by fall of coal while working at pillar.
	20	John Cox, .....	American, ..	Miner, .....	48	M.	St. Clair, .....	Face and eyes injured. While drilling out charge of powder that had missed fire the day previous it exploded.
	31	Richard Thomas, ....	American, ..	Miner, .....	58	M.	Otto, .....	Leg crushed. While passing the top of car hoisted inside, his foot slipped and he was caught between spokes of spiral wheel and timber chute.
June	9	George Ferns, .....	American, ..	Engineer, .....	18	S.	Buck Run, .....	Face and hands burned by explosion of gas. They fired blast at face of chute. In fifteen minutes they returned to face and ignited the gas.
	15	{ Enoch Zombowsky, { Anthony Suskavage,	Lithuanian, Lithuanian, ..	Miner, Miner's laborer, ..	30 19	M. S.	{ Otto, .....	Leg and arm fractured by fall of slate while loading car at pillar chute.
July	8	Joseph Skeddich, ....	Slavonian, ..	Company man, ..	29	M.	Oak Hill, .....	Hip fractured by fall of slate at face of pillar.
	8	Michael Bolich, .....	Austrian, ..	Miner, .....	29	M.	Howard, .....	Foot crushed by fall of coal in gangway while placing set of timber.
	20	John Mitchell, .....	Slavonian, ..	Miner, .....	32	S.	Buck Run, .....	Face and hands burned by explosion of gas. After going past at face of breast he returned and ignited a match to have a smoke and ignite the gas.
		Peter Dvrlac, .....	Austrian, ..	Miner, .....	37	M.	Lytle, .....	Leg fractured. While starting back in chute a piece rolled on him. Outside
Aug.	4	Michael Schwack, ..	Hungarian, ..	Laborer, .....	48	M.	Newcastle, .....	Back fractured. While going in gangway with trip of cars some material fell from top and struck the mule causing him to jump which threw the car from the track and the driver was thrown under the car.
Sept.	4	Horace Sours, .....	American, ..	Driver, .....	20	S.	Otto, .....	Hip fractured. While pushing cars with motor next the motor left the track and against the track, pinning Zemenski against the track.
	18	Philip Zemenski, ....	Slavonian, ..	Company man, ..	27	M.	St. Clair, .....	Legs and arms fractured by fall of top coal while working at breast pillar.
Oct.	8	Victor Marshall, .....	Lithuanian, ..	Miner, .....	43	M.	Oak Hill, .....	Back injured in attempting to jump on car that was ascending dirt plane. He missed his footing and fell beneath the car. Outside.
	21	Joseph Marchok, .....	Hungarian, ..	Laborer, .....	19	S.	Mount Hope, .....	Face and neck burned by explosion of gas. He went to face of chute with naked light and ignited the gas.
	21	John Brieda, .....	Austrian, ..	Miner, .....	30	M.	Wadesville, .....	

Schuylkill.

TABLE 5. —Continued

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Oct. 28	Clem Polka, .....	Russian, ....	Miner, .....	28	M.	Lytle, .....	Schuylkill,	Head, face and body burned by explosion of gas. He fired blast at face of breast, which destroyed length of brattice. He then returned to face and ignited gas in some unknown manner. Arm fractured by fall of slate while preparing face for gangway collar. Leg fractured by fall of top slate while trimming down loose pieces of coal at pillar.
Nov. 6	Andrew Bogutsky, ..	Lithuanian, ..	Miner, .....	30	S.	Lytle, .....		
	John Rozitas, .....	American, ..	Miner, .....	32	M.	Lytle, .....		
	Martin Shumski, ....	Polish, .....	Miner, .....	24	M.	Howard, .....		
9	John Anoskie, .....	Slavonian, ..	Miner's laborer, ..	27	S.	Buck Run, .....		
27	Michael Kuftha, ....	Polish, .....	Miner, .....	37	M.	Lytle, .....		Hand and face burned by explosion of gas. He was igniting fuse to fire blast and the sparks from fuse ignited the gas. Ribs fractured by fall of slate while assisting to erect steel frames on gangway.
Dec. 14	Joseph Wazzen, .....	American, ..	Slatepicker, .....	16	S.	Lytle, .....		Leg fractured by fall of coal from face while lifting bottom coal at face of breast, with which he was standing near covering and protecting machinery in breaker. He pushed his foot between the lower plank and the floor. Outside.

## CONDITION OF COLLIERIES

## PHILADELPHIA AND READING COAL AND IRON COMPANY

Otto, Wadesville, Pine Knot, Phoenix Park, Glendower and John Veith Collieries.—Ventilation, roads, drainage and condition as to safety, good.

## ST. CLAIR COAL COMPANY

St. Clair Colliery.—Ventilation, roads, drainage and condition as to safety, good.

## LYTLE COAL COMPANY

Lytle Colliery.—Ventilation, roads, drainage and condition as to safety, good.

## PINE HILL COAL COMPANY

Pine Hill Colliery.—Ventilation, roads, drainage and condition as to safety, good.

## OAK HILL COAL COMPANY

Oak Hill Colliery.—Ventilation fair. Drainage bad. Roads and condition as to safety, good.

## BUCK RUN COAL COMPANY

Buck Run Colliery.—Ventilation fair. Roads, drainage and condition as to safety, good.

## DARKWATER COAL COMPANY

Newcastle Colliery.—Ventilation fair. Drainage bad. Roads and condition as to safety, good.

## MT. HOPE COAL COMPANY

Mt. Hope Colliery.—Ventilation, roads and drainage, fair. Condition as to safety, good.

## WHITE AND COMPANY

Howard Colliery.—Ventilation, good in No. 1 Slope, but only fair in other Slopes. Drainage bad. Roads and condition as to safety, good.

## ELLSWORTH COAL COMPANY

Ellsworth Colliery.—Ventilation, roads, drainage and condition as to safety, good.

## BUTCHER CREEK COAL COMPANY

Laurel Run Colliery.—Ventilation fair. Roads and drainage bad. Condition as to safety, good.

## BLACK HEATH COAL COMPANY

Black Heath Colliery.—Ventilation, roads and drainage, fair. Condition as to safety, good.

## IMPROVEMENTS

## PHILADELPHIA AND READING COAL AND IRON COMPANY

Otto Colliery.—Completed Inside:—Haulage tunnel from Top Split vein to Primrose vein, 7th lift, shaft workings.

Air tunnel from Top Split vein to Primrose vein, 7th lift, shaft workings.

Haulage tunnel from Bottom Split vein to Top Split vein, 7th lift, shaft workings.

Air tunnel from Bottom Split vein to Middle Split vein, 5th lift, shaft workings.

Air tunnel from Bottom vein to Middle Split vein, 6th lift, shaft workings.

In Progress Inside:—Drainage tunnel from Bottom Split vein, 5th lift, shaft workings, to Middle Split vein, White Ash slope.

Opening new lift on White Ash slope at an elevation of 493 feet.

Completed Outside:—Installed 21-foot fan and engine at new air shaft at White Ash slope.

Wadesville Colliery.—The haulage tunnel driven south from the East Skidmore gangway, Beechwood water level drift to the Bottom Split of the Mammoth vein has been completed, and gangways have been turned east and west on the Top Split vein.

A 21-foot exhaust fan has been erected at the top of Beechwood shaft and is in operation.

The stripping of the Mammoth vein at Beechwood is in progress east of the team road to Newcastle for a distance of 1,200 feet.

The traveling-way from the No. 2 lift, Vulcan slope, to the surface, has been completed.

The Holmes slope is being continued to the 4th lift, No. 3 lift has been turned east.

The Holmes Seven Foot haulage tunnel, No. 2 lift, Holmes slope, is being sealed shut with a brick dam 8 feet thick.

Breast No. 73 East Top Split gangway, shaft level, is still in preparation for the installation of a self-acting plane.

The haulage tunnel driven south from the East Skidmore gangway, 1 lift, West Skidmore plane, to the Bottom Split vein, a distance of 105 yards, has been completed, and a curve has been turned east in the Bottom Split of the Mammoth vein.

The haulage tunnel, driven south from the East Seven Foot gangway, No. 1 lift, East Skidmore plane, to the Skidmore vein a distance of 43½ yards, has been completed, and a gangway turned east in the Skidmore vein.

A haulage tunnel is being driven south from the East Skidmore gangway, 1st lift, East Skidmore plane, to the Bottom Split of the Mammoth vein, estimated length 100 yards.

A haulage tunnel has been driven from the West Skidmore gangway No. 1 lift, East Skidmore plane, to the Bottom Split of the Mammoth vein, a distance of 123 yards, and a gangway has been turned west in the Mammoth vein.

A haulage tunnel has been driven from the West Skidmore gangway at No. 3 chute, No. 2 lift, West Skidmore plane, south to the Bottom

Split of the Mammoth vein, a distance of 134 yards. Gangways have been turned east and west in the Mammoth vein.

A rock airway has been driven from the West Skidmore monkey heading 1st lift, West Skidmore plane, at No. 30 chute, to the Bottom Split of the Mammoth vein, length of hole  $31\frac{1}{2}$  yards.

A wing tunnel has been driven east from the Beechwood main tunnel, a distance of 13 yards, to the Bottom Split of the Mammoth vein.

A car pusher has been installed on the landing at the foot of the coal shaft.

A water level tunnel has been started from the surface to the Skidmore vein at the old Wadesville dam, estimated length 44 yards.

A haulage tunnel is being driven south from the West Skidmore gangway 2nd lift. West Skidmore plane, at No. 4 chute, to the Bottom Split of the Mammoth vein, estimated length 112 yards.

A haulage tunnel is being driven north from the West Seven Foot gangway, at No. 18 chute, Beechwood drift, to the Buck Mountain vein, estimated length 47 yards.

A haulage tunnel is being driven south from the West Seven Foot gangway to No. 18 chute, Beechwood drift, to the Skidmore vein, estimated length 33 yards.

Pine Knot Colliery.—Completed inside: Haulage tunnel 8 by 12 feet from East Middle Split, south dip, to Top Split, south dip, at Breast No. 9, second level, No. 2 shaft.

Air tunnel 7 by 8 feet from East Middle Split, south dip, to Top Split, south dip, at Breast No.  $9\frac{1}{2}$ , second level, No. 2 Shaft.

Haulage tunnel 8 by 12 feet from East Skidmore, south dip, to Bottom Split, south dip, at Breast No. 8, second level, No. 2 Shaft.

Air tunnel 7 by 8 feet from East Skidmore, south dip, to Bottom Split, south dip, at Breast No.  $8\frac{1}{2}$ , second level, No. 2 Shaft.

Electric haulage on first level No. 2 Shaft.

Electric lighting in inside hospitals and tunnels.

In Progress, Inside: Traveling-way in Skidmore vein No. 1 to No. 2 Shaft.

Completed Outside: Retail coal pockets and driveway to same.

Phoenix Park Colliery.—Completed Inside: Sinking No. 6 Tracy slope.

Sinking No. 1 underground slope, Diamond vein.

Driving tunnel from Tracy vein to Little Tracy vein, old No. 1 level, No. 6 Tracy slope.

Sinking No. 1 Plane at Breast No. 7, second lift, No. 2 underground slope, Diamond vein.

Sinking No. 2 plane at Breast No. 19, second lift, No. 2 underground slope, Diamond vein.

Sinking No. 3 plane at Breast No. 25, second lift, No. 2 underground slope, Diamond vein.

Hospital at Peach Mountain slope.

Completed Outside: Lamp house at No. 2 Tracy air shaft.

Glendower Colliery.—Completed Inside: Haulage tunnel from Bottom Split vein north to slope vein at Breast No. 25, second level, Basin slope.

Haulage tunnel 7 by 10 feet from West Skidmore to Buck Mountain vein at Breast No. 37, Glendower water level.

In Progress.—Inside: Basin slope, Top Split vein, West Glendower Colliery.



West third level Basin slope, Slope vein, West Glendower Colliery.

Completed Outside: Railroad to new Top Split slope, West Glendower.

Locomotive house at Taylorsville.

#### LYTLE COAL COMPANY

Lytle Colliery.—Outside: Installed fan on No. 2 air shaft, rebuilt Holmes vein fan, built brick safety lamp house, fireproof foreman's office and waiting room, and fireproof electric repair shop and storage house. Concreted top of No. 2 slope. Installed 2 Wilmot jigs for egg coal. Built 40 mine cars.

Inside: Fourth Level: Tapped water in Wadlingers Old Diamond workings. Drove 66 yards of air tunnel.

Fifth Level: Completed turnout and Head of No. 6 slope. Drove 85 yards of tunnel.

Sixth Level: Completed sixth level bottom at shaft. Drove pump house for new pump; also engine house for No. 7 slope. Installed electric hoist No. 7 slope. Drove turnouts and Head of No. 7 slope. Installed new electric locomotive. Drove 217 yards of tunnel; also 22 yards of air tunnel.

#### OAK HILL COAL COMPANY

Oak Hill Colliery.—Inside: New slope tunnel from Black Heath to Red Ash, 127 feet.

Third level tunnel from Skidmore to Black Heath, 112 feet.

Third level overhead tunnel from Skidmore to Black Heath, 59 feet.

Fourth level tunnel from Skidmore to White Ash, 210 feet.

Fourth level hospital.

New Slope tunnel from Black Heath to White Ash, 20 feet.

New pump house, fourth level, 34 feet long.

Fourth level overhead air tunnel from Skidmore to Black Heath, 40 feet.

Fifth level overhead air tunnel from Buck Mountain to Seven Foot, 110 feet.

New pump in fourth level, and concrete pump house.

Outside: Steam car pusher and steam dump at head of breaker.

#### BUCK RUN COAL COMPANY

Buck Run Colliery.—Inside: Two tunnels were driven from the Seven Foot vein on the south dip, to the Seven Foot vein on the north dip, on the third level. One of these tunnels was later on extended to the Buck Mountain vein on the north dip.

A tunnel was driven from the West Seven Foot, third level, north dip, to the Buck Mountain vein.

A tunnel was driven from the West Seven Foot, second level, north dip, north to the Daniels vein.

An electrically driven pump was installed on the third level. This pump has a capacity of 225 gallons per minute.

Outside: Eleven dwellings were erected and twelve more partly completed.



A fireproof building was erected about 75 feet east of the mouth of the Tender slope, which is being used as a lamp house, foreman's office and supply house.

A motor generator set of 150 K. W. capacity was installed.

#### DARKWATER COAL COMPANY

Newcastle Colliery.—Inside: A tunnel was driven on the second level from the Skidmore vein on the south dip to the Skidmore vein on the north dip.

Three tunnels were driven from the Skidmore vein to the Mammoth vein on the south dip.

Two air holes were driven on the Skidmore vein, south dip, from the third level to the surface.

A water level tunnel was driven from the surface near the office north of the Mammoth vein. This tunnel is now being extended to the Skidmore vein and will strike that vein on line with the Tender slope.

When it is finished it will afford a passageway for the inside water, and men will travel through it to go down the slope.

Outside: A fireproof brick generator house was almost completed.

#### MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in the Armory, Pottsville, May 18 and 19. The Board of Examiners was composed of the following: Michael J. Brennan, Inspector, Pottsville; James B. Neale, Superintendent, Buck Run; Timothy Brennan, Miner, Heckscherville; Henry Gottschall, Miner, Branchdale.

The following persons passed a satisfactory examination and were granted certificates:

#### MINE FOREMEN

John Cullen, Zerbe; Patrick Maley, Heckscherville; Thomas Grace, Glen Carbon; Frederick McHale, Owen Langton, William Gulliver, Minersville.

#### ASSISTANT MINE FOREMEN

Samuel E. Smith.



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## TWENTIETH DISTRICT

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SCHUYLKILL AND DAUPHIN COUNTIES

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Lykens, Pa., February 19, 1916.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor of transmitting herewith my annual report as Inspector of Mines of the Twentieth Anthracite District, for the year ending December 31, 1915.

Respectfully submitted,

CHARLES J. PRICE,  
Inspector.

## SUMMARY OF STATISTICS

Number of collieries, .....	7
Number of mines, .....	26
Number of mines in operation, .....	23
Number of tons of coal shipped to market, .....	1,599,776
Number of tons used at mines for steam and heat, ....	415,257
Number of tons sold to local trade and used by employes, .....	40,567
Number of tons produced, .....	2,055,600
Number of tons produced by compressed air machines, .....	.....
Number of tons produced by electrical machines, ....	.....
Number of persons employed inside of mines, .....	4,295
Number of persons employed outside, .....	1,541
Number of fatal accidents inside of mines, .....	13
Number of fatal accidents outside, .....	1
Number of non-fatal accidents inside of mines, .....	30
Number of non-fatal accidents outside, .....	8
Number of tons of coal produced per fatal accident inside, .....	158,123
Number of tons produced per fatal accident outside, ..	2,055,600
Number of tons produced per fatal accident inside and outside, .....	146,829
Number of persons employed per fatal accident inside, .....	330
Number of persons employed per fatal accident outside, .....	1,541
Number of persons employed per fatal accident inside and outside, .....	417
Number of persons employed per non-fatal accident inside, .....	143
Number of persons employed per non-fatal accident outside, .....	193
Number of persons employed per non-fatal accident inside and outside, .....	154
Number of wives made widows, .....	10
Number of children made orphans, .....	24
Number of steam locomotives used inside of mines, ....	.....
Number of steam locomotives used outside, .....	20
Number of compressed air locomotives used inside, ....	3
Number of compressed air locomotives used outside, ...	.....
Number of electric motors used inside, .....	22
Number of electric motors used outside, .....	5
Number of gasoline locomotives used inside, .....	2
Number of fans in use, .....	24
Number of furnaces in use, .....	.....
Number of gaseous mines in operation, .....	23
Number of non-gaseous mines in operation, .....	.....
Number of new mines opened, .....	.....
Number of old mines abandoned, .....	.....

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Philadelphia and Reading Coal and Iron Company,...	1,033,467
Susquehanna Coal Company, .....	867,955
Lehigh Valley Coal Company, .....	154,178
Total, .....	<u>2,055,600</u>

Production by Counties

Schuylkill, .....	1,187,645
Dauphin, .....	827,955
Total, .....	<u>2,055,600</u>

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Philadelphia and Reading Coal and Iron Co.,	9	4	10	16	3	19	114,830	64,592	2,211	659	2,870	246	659	138	220
Susquehanna Coal Co.,	3	.....	3	11	4	15	289,318	78,905	1,716	770	2,486	572	.....	136	192
Lehigh Valley Coal Co.,	1	.....	1	3	1	4	154,178	51,393	368	112	480	368	.....	123	112
Totals and averages, .....	13	1	14	30	8	38	158,123	63,520	4,285	1,541	5,836	330	1,541	143	193



TABLE C.—Causes of Fatal Accidents Inside and Outside of Mines

	Months												Totals	Percentages
	January	February	March	April	May	June	July	August	September	October	November	December		
Inside														
Falls of coal, .....						1	1						2	15.38
Falls of slate, .....				1								1	2	15.38
Falls of roof, .....												1	1	33.08
Mine cars, .....					1		1					1	3	23.08
Struck by piece of rock, .....	1												1	7.69
Rush of coal, .....					1								1	7.69
Cause unknown, .....						1							1	7.69
Totals, .....	1	2		1	2	2	2					3	13	100.00
Outside														
Cars, .....												1	1	100.00
Totals, .....												1	1	100.00
Grand totals inside and outside, .....	1	2		1	2	2	2					4	14	.....

TABLE D.—Causes of Non-Fatal Accidents Inside and Outside of Mines

	Months												Totals	Percentages
	January	February	March	April	May	June	July	August	September	October	November	December		
Inside														
Falls of coal, .....						1	1					1	3	10.00
Falls of slate, .....	1		1	1		1	1						5	16.67
Mine cars, .....	1	1							3	2	1	1	9	30.00
Explosions of gas, .....				1			1	1				1	4	13.33
Blasts, premature and otherwise, .....									1				1	3.34
Falling down breasts, .....				1									1	3.33
Explosions of carbide, .....								1	1				1	3.34
Rock rolled on him, .....								1					1	3.33
Struck by iron pipe, .....									1				1	3.33
Struck by cage, .....								1					1	3.33
Struck by timber, .....	2												2	6.67
Falling, .....											1		1	3.33
Totals, .....	4	1	1	3		2	3	4	5	2	2	3	30	100.00
Outside														
Cars, .....											1		1	12.50
Machinery, .....						1							1	12.50
Thrown off mule, .....					1								1	12.50
Rush of culm, .....		1											1	12.50
Bags of cement fell on him, .....													1	12.50
Struck by lever, .....				1							1		1	12.50
Struck by block of wood, .....										1			1	12.50
Struck by coil of wire rope, .....								1					1	12.50
Totals, .....		1		1	1	1		1		1	2		8	100.00
Grand totals inside and outside, .....	4	2	1	4	1	3	3	5	5	3	4	3	38	.....

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months											
	Totals	December	November	October	September	August	July	June	May	April	March	February
<b>Inside</b>												
Assistant mine foremen, .....	1	1	1	1	1	1	1	1	1	1	1	1
Miners, .....	2	1	1	1	1	1	1	1	1	1	1	1
Miners' laborers, .....	2	1	1	1	1	1	1	1	1	1	1	1
Drivers and runners, .....	1	1	1	1	1	1	1	1	1	1	1	1
Totals, .....	13	3	3	3	3	3	3	3	3	3	3	3
<b>Outside</b>												
Dumpmen, .....	1	1	1	1	1	1	1	1	1	1	1	1
Totals, .....	1	1	1	1	1	1	1	1	1	1	1	1
Grand totals inside and outside, .....	14	4	4	4	4	4	4	4	4	4	4	4

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months											
	Totals	December	November	October	September	August	July	June	May	April	March	February
<b>Inside</b>												
Fire bosses and assistants, ...	1	1	1	1	1	1	1	1	1	1	1	1
Miners, .....	11	2	2	2	2	2	2	2	2	2	2	2
Miners' laborers, .....	9	1	1	1	1	1	1	1	1	1	1	1
Drivers and runners, .....	2	1	1	1	1	1	1	1	1	1	1	1
Repairmen, .....	2	1	1	1	1	1	1	1	1	1	1	1
Loaders, .....	3	1	1	1	1	1	1	1	1	1	1	1
Pipemen, .....	1	1	1	1	1	1	1	1	1	1	1	1
Blacksmiths, .....	1	1	1	1	1	1	1	1	1	1	1	1
Totals, .....	30	3	3	3	5	4	3	2	3	3	1	4
<b>Outside</b>												
Laborers, .....	5	1	1	1	1	1	1	1	1	1	1	1
Drivers, .....	1	1	1	1	1	1	1	1	1	1	1	1
Machinists, .....	1	1	1	1	1	1	1	1	1	1	1	1
Repairmen, .....	1	1	1	1	1	1	1	1	1	1	1	1
Totals, .....	8	2	2	2	2	2	2	2	2	2	2	2
Grand totals inside and outside, .....	38	3	4	3	5	5	3	3	4	4	1	4

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months											
	Totals	December	November	October	September	August	July	June	May	April	March	February
American, .....	14	4	...	...	...	...	2	2	2	1	...	1
Totals, .....	14	4	...	...	...	...	2	2	2	1	...	1

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months											
	Totals	December	November	October	September	August	July	June	May	April	March	February
American, .....	25	3	3	3	3	4	1	2	...	3	1	1
Irish, .....	1	...	...	...	...	...	...	...	1	...	...	1
Polish, .....	1	...	...	...	...	...	...	...	...	...	...	...
Lithuanian, .....	1	...	...	...	1	1	1	1	...	...	...	...
Austrian, .....	6	...	1	...	...	...	1	...	...	1	...	1
Russian, .....	4	...	...	...	1	...	1	...	...	1	...	...
Totals, .....	38	3	4	3	5	5	3	3	1	4	1	4

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Philadelphia and Reading Coal and Iron Co.															
Lincoln Colliery:															
Lincoln No. 1, .....	Slope, .....	Gaseous, ..	Fan, .....	21	7	6	85	2	Gulbal, .....	Steam, .....	39	250,000	250,000	259,000	917
Lincoln No. 2, .....	Slope, .....	Gaseous, ..	Fan, .....	18	6	5.3	80	2	Gulbal, .....	Steam, .....					
Lincoln No. 3, .....	Slope, .....	Gaseous, ..	Fan, .....	12	4	4	90	7	Gulbal, .....	Electricity, ..					
Lincoln No. 2, Vein Trial	Slope, .....	Gaseous, ..	Fan, .....	19	7	6	90	2.4	Gulbal, .....	Steam, .....					
Lincoln Water Shaft, ....	Shaft, .....	Gaseous, ..	Fan, .....	18	6	5	95	1.8			23	203,000	203,000	210,000	749
Brookside Colliery:															
Brookside No. 1, .....	Slope, .....	Gaseous, ..	Fan, .....	18	6	5	85	1.1	Gulbal, .....	Steam, .....					
Brookside No. 4, .....	Slope, .....	Gaseous, ..	Fan, .....	18	7	6	85	2							
Brookside, East, .....	Shaft, .....	Gaseous, ..	Fan, .....	21	7	6	85	1.2							
Brookside, .....	Slope, .....	Gaseous, ..	Fan, .....	14	4	5	86								
Good Spring Colliery:															
Good Spring No. 1, .....	Slope, .....	Gaseous, ..	Fan, .....	18	6	5	80	1.1			19	172,500	172,500	175,300	545
Good Spring, Tender, .....	Slope, .....	Gaseous, ..	Fan, .....	18	6	5	80	.8	Gulbal, .....	Steam, .....					
Good Spring No. 3, .....	Slope, .....	Gaseous, ..	Fans, .....	{ 18	6	5	95	1.1							
				{ 15	4.5	5	95	1.1							
Valley View Colliery:															
Valley View No. 1, .....	Tunnel, ..	Gaseous, ..	Fan, .....	12	4	4	*	....							
Valley View No. 2, .....	Drift, .....	Non-gas, ..	Natural, ..	....	....	....	*	....							
Valley View No. 3, .....	Drift, .....	Non-gas, ..	Natural, ..	....	....	....	*	....							

\*Idle.



TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Philadelphia and Reading Coal and Iron Co. Lincoln..... Brookside..... Gees Spring..... Valley View..... Middle Creek Washery..... Kansch Creek Washery.....	Schuylkill, .....	E. E. Kaercher, .....	Pottsville, .....	{ M. J. Doyle, Division Supt. { R. J. Schneider, Inside District Supt. { Joseph H. Lee, Outside District Supt.	Tremont, .....	P. and R.
Susquehanna Coal Co. Williamstown, .....	Dauphin, .....	R. A. Quin, .....	Wilkes-Barre, .....	William Auman, ....	Lykens, .....	Pennsylvania
Short Mountain Washery, .. Short Mountain Washery, .. Lehigh Valley Coal Co. Blackwood, .....	Schuylkill, .....	Thomas Thomas, .....	Wilkes-Barre, .....	Thomas R. Jones, ....	Mahanoy City, .....	Lehigh Valley



TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Philadelphia and Reading Coal and Iron Co.	{ Schuylkill, ... }	335,763	80,694	7,318	423,775	211	1,114	3	7	50,285	89,782	8,913	102
Lincoln, .....		238,834	38,569	63	287,466	220	953	6	10	8,725	87,983	2,000	88
Brookside, .....		139,544	59,335	7,604	266,483	216	712	1	2	.....	135,915	25,425	81
Good Spring, .....		.....	.....	183	183	.....	2	.....	.....	.....	.....	.....	.....
Valley View, .....	{ Schuylkill, ... }	784,141	178,598	15,168	977,907	.....	2,731	10	19	59,550	313,690	36,338	271
.....		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....		48,991	6,569	.....	55,560	98	3	.....	.....	.....	275	.....	.....
.....		48,991	6,569	.....	55,560	98	89	.....	.....	.....	277	.....	.....
Totals, .....	{ Dauphin, ... }	833,132	185,167	15,168	1,033,467	.....	2,870	10	19	59,550	313,967	36,338	271
.....		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Susquehanna Coal Co.		282,540	50,789	7,939	351,268	233	1,168	.....	10	10,250	89,200	118,625	91
Williamstown, .....		217,161	50,756	15,423	283,340	206	1,251	3	5	55,925	67,785	5,694	106
Short Mountain, .....	{ Dauphin, ... }	509,701	101,545	23,362	634,608	.....	2,419	3	15	66,075	156,955	124,319	197
.....		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....





TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Grand total									
		Inside					Outside				
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes
		7	55	....	711	330	137	41	4	291	635
		3	9	31	553	117	112	16	38	4	833
		2	9	....	216	42	6	6	2	37	48
		12	73	31	1,480	489	255	63	44	332	1,516
											4,295
											Total inside
											2,211
											1,716
											368
											All other employes
											442
											770
											112
											450
											75
											13
											12
											3
											6
											1
											23
											107
											307
											132
											158
											17
											27
											59
											10
											1
											10
											4
											2
											....
											Superintendents
											Foremen
											Blacksmiths and carpenters
											Engineers and firemen
											Slatepickers (boys)
											Slatepickers (men)
											Bookkeepers and clerks
											All other employes
											Total outside
											659
											2,870
											770
											2,486
											112
											480
											967
											1,541
											5,836
											Grand total

Philadelphia and Reading  
Coal and Iron Co., .....  
Susquehanna Coal Co., .....  
Lehigh Valley Coal Co., .....  
Totals, .....

Schuylkill, ...  
Dauphin, .....  
Schuylkill, ...  
.....

TABLE 3.—Part 2

[illegible]

TABLE 4.—Fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 13	Enmanuel Peters, .....	American, ..	Miner, .....	40	M.	1	4	Short Mountain,	Dauphin, .....	Instantly killed while trying to start coal in draw hole. A large piece of rock swept down the pitch, striking the battery and breaking the prop above him and his head was caught between the rock and a drill.
Feb. 9	Christian Long, .....	American, ..	Miner, .....	48	M.	1	4	{ Lincoln, .....	Schuylkill, ...	{ Instantly killed by fall of roof while robbing pillars.
April 26	Harry U. Minnig, .....	American, ..	Miner, .....	25	M.	1	4	{ Brookside, .....	Schuylkill, ...	{ Instantly killed by fall of slate while sinking a prop hole near face of breast.
May 6	Harry Seymour, .....	American, ..	Driver, .....	41	M.	1	....	Good Spring, .....	Schuylkill, ...	Fatally injured by falling under cars on gangway.
7	Harry Wagner, .....	American, ..	Miner, .....	24	S.	....	....	Brookside, .....	Schuylkill, ...	Instantly killed by rush of coal in man-way.
June 4	William H. Woods, ...	American, ..	Assistant foreman.	40	W.	....	2	Brookside, .....	Schuylkill, ...	Found dead in sump at foot of shaft. The colliery was idle and he was sent down the shaft to run the pump. When he did not come up at 4 P. M. they went to look for him and found him dead.
17	George W. Foster, ...	American, ..	Miner, .....	37	M.	1	3	Blackwood, .....	Schuylkill, ...	Instantly killed by fall of coal at face of gangway.
July 16	Elmer E. Wagner, ..	American, ..	Miner, .....	43	S.	....	....	Short Mountain,	Dauphin, .....	Instantly killed by fall of coal while robbing pillars.
31	Solomon Zerby, .....	American, ..	Laborer, .....	29	M.	1	3	Lincoln, .....	Schuylkill, ...	Instantly killed by being squeezed between car and timber on gangway.
Dec. 9	George Grell, .....	American, ..	Laborer, .....	26	M.	1	1	Brookside, .....	Schuylkill, ...	Fatally injured by fall of slate at face of gangway.
15	Oscar Bettinger, .....	American, ..	Miner, .....	49	M.	1	3	Short Mountain,	Dauphin, .....	Instantly killed by fall of roof near face of gangway.
16	Frank Crabb, .....	American, ..	Dumpman, ...	33	M.	....	....	Brookside, .....	Schuylkill, ...	Fatally injured by being caught by cars.
21	John Tschubb, .....	American, ..	Runner, .....	24	S.	....	....	Brookside, .....	Schuylkill, ...	Fatally injured by being caught by cars at foot of shaft.
				61	M.	1	....	Brookside, .....	Schuylkill, ...	



TABLE 5.—Non-fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 11	Robert Deltrich, .....	American, ..	Laborer, ..	33	M.	Good Spring, .....	Schuylkill, ...	Arm broken by collar falling on him while timbering gangway.
23	Joseph Kopko, .....	Austrian, ..	Laborer, ..	30	M.	Brookside, .....	Schuylkill, ...	Legs badly bruised by locomotive on gangway.
	Thomas Fleming, .....	Irish, .....	Miner, .....	29	S.	Blackwood, .....	Schuylkill, ...	Thumb severed by fall of slate at face of breast.
29	Joseph Zirritis, .....	Lithuanian, ..	Repairman, ..	37	M.	Brookside, .....	Schuylkill, ...	Toes crushed by timber falling on him on gangway.
Feb. 4	George Wagner, .....	American, ..	Laborer, ..	19	S.	Brookside, .....	Schuylkill, ...	Collar bone split by being caught between cars on gangway.
12	John Golc, .....	Russian, ..	Laborer, ..	30	S.	Short Mountain, .....	Dauphin, .....	Legs broken by rush of frozen culm. Out-cars on gangway.
March 29	George Batdorf, .....	American, ..	Repairman, ..	46	S.	Lincoln, .....	Schuylkill, ...	Arm fractured by fall of slate in airway.
April 6	Robert Price, .....	American, ..	Fire boss, .....	35	M.	Brookside, .....	Schuylkill, ...	Face and hands burned by explosion of gas at face of breast.
19	Mike Lopsky, .....	Russian, ..	Laborer, ..	45	M.	Short Mountain, .....	Dauphin, .....	Leg broken by bags of cement falling on him. Outside.
26	Oliver Reiner, .....	American, ..	Miner, .....	21	M.	Brookside, .....	Schuylkill, ...	Arm fractured and leg injured by fall of slate near face of breast.
29	Dennis McAuliffe, .....	American, ..	Miner, .....	53	M.	Williamstown, .....	Dauphin, .....	Two ribs broken by falling down breast.
May 3	John Kopas, .....	Polish, .....	Driver, .....	18	S.	Blackwood, .....	Schuylkill, ...	Nose broken and head injured by being thrown off a mule. Outside.
June 2	Michael Tomoskey, ..	Austrian, ..	Laborer, ..	39	M.	Williamstown, .....	Dauphin, .....	Chest on end of at face of breast. Injured by fall of slate at face of breast.
17	Joseph Klusey, .....	American, ..	Miner, .....	29	S.	Williamstown, .....	Dauphin, .....	Back and groin injured by fall of slate at face of breast.
22	Harry H. Flinton, .....	American, ..	Machinist, .....	19	S.	Short Mountain, .....	Dauphin, .....	Fingers crushed by being caught in gears of machinery. Outside.
July 20	Andrew Lutkas, .....	Russian, ..	Miner, .....	32	M.	Williamstown, .....	Dauphin, .....	Contusion of pelvis and ankle sprained by fall of coal at face of breast.
26	John C. Wolfe, .....	American, ..	Miner, .....	33	M.	Lincoln, .....	Schuylkill, ...	Pelvis fractured by fall of slate while robbing pillars.
27	Louis Markovich, .....	Austrian, ..	Miner, .....	35	S.	Williamstown, .....	Dauphin, .....	Slightly burned by explosion of gas in heading.
Aug. 9	Lott Furman, .....	American, ..	Laborer, ..	22	S.	Lincoln, .....	Schuylkill, ...	Thigh fractured by a piece of rock rolling on him alongside of chute.

TABLE 5.—Continued

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Aug.	20 Mert Underkoffler, ....	American, ..	Laborer, .....	18	S.	Williamstown, .....	Dauphin, ....	Compound fracture of leg. Struck by a coil of wire rope. Outside.
	21 Angelo Swartz, .....	Austrian, ..	Laborer, .....	22	S.	Blackwood, .....	Schuylkill, ...	Hip dislocated by being struck by a descending cage at foot of shaft.
	25 Alex Frew, .....	American, ..	Pipeman, .....	31	M.	Williamstown, .....	Dauphin, ....	Rib broken by being caught by iron pipe on gangway.
	Walter Messner, .....	American, ..	Leader, .....	19	S.	Short Mountain, .....	Dauphin, ....	Hands severely burned by explosion of gas in chute.
Sept.	1 Daniel Newcomer, ....	American, ..	Laborer, .....	17	S.	Lincoln, .....	Schuylkill, ...	Hand crushed by car at top of inside slope.
	15 Victor Horley, .....	American, ..	Miner, .....	49	M.	Brookside, .....	Schuylkill, ...	Badly burned by explosion of carbide while preparing a charge of dynamite.
	18 John Schucora, .....	Russian, ...	Laborer, .....	33	M.	Blackwood, .....	Schuylkill, ...	Hands, head and eyes injured by explosion of blast in tunnel.
	21 John Kolodrian, .....	Austrian, ..	Laborer, .....	31	M.	Williamstown, .....	Dauphin, ....	Arm broken by being caught by cars on gangway.
Oct.	23 Frank Intz, .....	American, ..	Blacksmith, .....	65	S.	Lincoln, .....	Schuylkill, ...	Leg fractured by trip of cars on gangway.
	6 Roy Kessler, .....	American, ..	Leader, .....	17	S.	Brookside, .....	Schuylkill, ...	Leg fractured by being caught by car on gangway.
	7 Simon Neberling, ....	American, ..	Laborer, .....	55	M.	Brookside, .....	Schuylkill, ...	Ribs fractured by a large block of wood falling on him. Outside.
	23 John Tschubb, .....	American, ..	Runner, .....	60	M.	Brookside, .....	Schuylkill, ...	Knee injured by being caught between cars at bottom of shaft.
Nov.	11 James Krammas, ....	American, ..	Miner, .....	62	M.	Lincoln, .....	Schuylkill, ...	Arm fractured by falling at face of breast.
	13 Samuel Ditzler, .....	American, ..	Laborer, .....	18	S.	Lincoln, .....	Schuylkill, ...	Compound fracture of leg by falling under car. Outside.
	27 Joseph Murdock, .....	Austrian, ..	Repairman, .....	26	M.	Brookside, .....	Schuylkill, ...	Finger cut off by lever falling on him. Outside.
	Martin Doyle, Jr., ...	American, ..	Driver, .....	18	S.	Williamstown, .....	Dauphin, ....	Rib fractured, hip partially dislocated and knee injured by falling under car on gangway.
Dec.	7 Mark Bond, .....	American, ..	Driver, .....	20	S.	Williamstown, .....	Dauphin, ....	Toe crushed by car running over it on top of inside slope.
	22 George S. Harmon, ...	American, ..	Miner, .....	29	W.	Short Mountain, .....	Dauphin, ....	Severely burned by explosion of gas on gangway.
	24 Elmer Clauser, .....	American, ..	Miner, .....	27	M.	Good Spring, .....	Schuylkill, ...	Back severely injured by fall of coal at face of breast.

## CONDITION OF COLLIERIES

## PHILADELPHIA AND READING COAL AND IRON COMPANY

Lincoln, Brookside and Good Spring Collieries.—Ventilation, drainage and condition as to safety, good.

## SUSQUEHANNA COAL COMPANY

Williamstown and Short Mountain Collieries.—Ventilation and condition as to safety, good. Drainage, fair.

## LEHIGH VALLEY COAL COMPANY

Blackwood Colliery.—Ventilation, drainage and condition as to safety, good.

## IMPROVEMENTS

## PHILADELPHIA AND READING COAL AND IRON COMPANY

Lincoln Colliery.—Kalmia No. 2 vein slope west of colliery has been reopened to first lift and is being extended below this level, having reached a distance of 430 feet.

A culm plane 260 feet north of Kalmia No. 2 vein slope has been completed.

A mine track connecting Kalmia No. 2 vein slope and culm plane with mine track running to No. 2 vein trial slope has been completed.

Electric haulage has been extended from line running to No. 2 vein trial slope to top of Kalmia No. 2 vein slope and culm plane.

A tunnel is being driven through the fault at No. 1 slope, seventh lift, east No. 2 vein gangway and has reached a distance of 115 feet.

Electric haulage has been extended on the west No. 4 vein, sixth lift gangway, to breast No. 128.

Brookside Colliery, East Section.—The installation of the high stage compressed air plant has been completed and this method of haulage is now being used on the third lift between the shaft and No. 54 tunnel on the east side; also on the fifth lift between the shaft and No. 4 plane.

A tunnel has been driven on fifth lift from the No. 6 vein gangway at No. 8 chute to the No. 5 vein gangway, a distance of 55 feet.

An air tunnel has been driven on fifth lift on the level of the main heading from the No. 6 vein at No. 4 chute to the No. 5 vein connecting with the old air tunnel from No. 5 to No. 4 vein tunnel, a distance of 54 feet.

An air tunnel has been driven on fifth lift on the level of the main heading from the No. 6 vein at No. 9 chute to the No. 5 vein, a distance of 42 feet.

A tunnel is being driven on fourth lift of Tender slope from the No. 4 vein to shaft and has reached a distance of 284 feet.

West Section.—The No. 1 tunnel, No. 4 basin slope, west third lift, has been extended from Leader to No. 4 vein, a distance of 116 feet.

Good Spring Colliery.—A tunnel has been driven at No. 1 slope, third lift, from West Bottom Bench gangway at Breast No. 75 to Orchard vein, a distance of 651 feet.

A back-switch tunnel has been driven on fourth lift at bottom of Tender slope, a distance of 52 feet.

A tunnel has been driven at No. 1 slope, second lift, from East Holmes gangway, at Breast No. 82 to Orchard vein, a distance of 283 feet.

A fresh water reservoir 35 feet by 60 feet by 8 feet deep has been built north of No. 1 slope.

#### SUSQUEHANNA COAL COMPANY

Williamstown Colliery.—Installed a new locomotive and built a new washhouse and a new motor house at Big Lick.

The following tunnels were driven: East Lykens vein to East Little vein No. 2 shaft; Little vein to Red Shale No. 2 shaft; Big Lick slope to White Ash measures; No. 11 vein to No. 9 vein South tunnel, No. 1 shaft; No. 7 vein to No. 11 vein, in No. 1 shaft; rock plane south to No. 9 vein, No. 2 shaft counter; No. 9 vein to No. 7 vein, Bear Valley slope No. 2 lift. Airway from White Ash to Big Lick slope; air tunnel from White's vein airway to White Ash Big Lick slope; air shaft is being sunk at Bear Valley. Installed a new pump at No. 1 shaft.

Short Mountain Colliery.—Tunnels were driven as follows: Little vein West Bottom Bear Gap slope; No. 4 level White's vein west No. 4 slope; Top Basin slope; Bear Gap slope No. 5 level, Big vein No. 4 slope; White's vein west No. 5 level; White Ash slope; White's vein east No. 1 level; White's vein to Big vein, north dip, No. 7 level.

The following tunnels were driven to No. 1 shaft: No. 5 counter No. 4 slope; No. 4 slope No. 5 level; No. 4 slope No. 2 level; White's vein No. 4 slope; No. 4 slope No. 3 level; No. 2 gate; Old No. 1, No. 1 level. These tunnels are supported with structural steel at the shaft openings.

The following airways were driven: White's vein east No. 1 level; White's vein east No. 5 level; Big vein West Bear Gap slope; White's vein east No. 3 level; White's vein west No. 1 level.

Sunk east side air slope and erected fan. Sunk west side air shaft and erected fan. Airway driven, Bear Gap trial slope. Sunk basin slope, White's vein No. 4 slope; trial slope White Ash. Plane driven Bear Gap slope. Erected steel head frame, hoisting engines, brick engine house and steam lines at No. 1 shaft.

#### LEHIGH VALLEY COAL COMPANY

Blackwood Colliery.—Drove 109 feet of tunnel north from Little Orchard vein in tunnel, being driven to Little Diamond vein in Blackwood tunnel.

Drove 161 feet to completion in tunnel from Tracy to Skidmore vein on east side of Blackwood tunnel.

Drove 98 feet to completion in tunnel from Primrose to Buck Mountain vein in Blackwood tunnel.

Turnout at second level driven 48 feet east to a total distance of 78 feet, and west 294 feet to a total distance of 315 feet to main second level tunnel. Main second level tunnel driven 154 feet north and 96 feet south from this intersection. Tunnel driven from a point 78 feet east of shaft in a southwesterly direction a distance of 540 feet to main second level tunnel. Main second level tunnel driven north from this intersection a distance of 80 feet and south 415 feet to connect with Tracy gangway at foot of Tracy slope.

Installed a water spray system for fire protection on west side of breaker, and rock chute and conveyor line for the more economical handling of mine rock and breaker refuse.

### MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in Lykens, May 18, 19 and 20. The Board of Examiners was composed of Charles J. Price, Mine Inspector; William Auman, Superintendent, Lykens; Samuel Evans, Miner, Minersville; and O. G. Zigler, Miner, Lykens.

The following persons passed a satisfactory examination and were granted certificates:

#### MINE FOREMEN

Harry A. Miller, John A. Wolf, John Dyer, Stephen Morgan, Thomas Bowen, Williamstown; William H. King, Tower City.

#### ASSISTANT MINE FOREMAN

Arthur C. Campbell, Harry J. Frantz, Daniel F. Stinner, John J. Murray, Jeremiah E. Buggy, William A. Mullen, Harper A. Yoder, Williamstown; Dennis M. Cavanagh, Clinton E. Klinger, Wiconisco; William E. Workman, Peoples.





## TWENTY-FIRST DISTRICT

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LACKAWANNA, SUSQUEHANNA, SULLIVAN AND WAYNE COUNTIES

---

Forest City, Pa., February 15, 1916.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my annual report as Inspector of Mines of the Twenty-first Anthracite District for the year ending December 31, 1915.

Respectfully submitted,

BENJAMIN MAXEY,

Inspector.

## SUMMARY OF STATISTICS

Number of collieries, .....	16
Number of mines, .....	37
Number of mines in operation, .....	37
Number of tons of coal shipped to market, .....	2,681,323
Number of tons used at mines for steam and heat, ....	269,878
Number of tons sold to local trade and used by employes,	55,426
Number of tons produced, .....	3,006,627
Number of tons produced by compressed air machines, .....	.....
Number of tons produced by electrical machines, .....	.....
Number of persons employed inside of mines, .....	5,022
Number of persons employed outside, .....	1,951
Number of fatal accidents inside of mines, .....	21
Number of fatal accidents outside, .....	1
Number of non-fatal accidents inside of mines, .....	39
Number of non-fatal accidents outside, .....	7
Number of tons of coal produced per fatal accident inside, .....	143,173
Number of tons produced per fatal accident outside, ...	3,006,627
Number of tons produced per fatal accident inside and outside, .....	136,665
Number of persons employed per fatal accident inside, ..	239
Number of persons employed per fatal accident outside, ..	1,951
Number of persons employed per fatal accident inside and outside, .....	317
Number of persons employed per non-fatal accident inside, .....	129
Number of persons employed per non-fatal accident outside, .....	279
Number of persons employed per non-fatal accident inside and outside, .....	152
Number of wives made widows, .....	11
Number of children made orphans, .....	28
Number of steam locomotives used inside of mines, ...	3
Number of steam locomotives used outside, .....	29
Number of compressed air locomotives used inside, ....	.....
Number of compressed air locomotives used outside, ..	.....
Number of electric motors used inside, .....	49
Number of electric motors used outside, .....	1
Number of gasoline locomotives used inside, .....	4
Number of fans in use, .....	29
Number of furnaces in use, .....	.....
Number of gaseous mines in operation, .....	4
Number of non-gaseous mines in operation, .....	33
Number of new mines opened, .....	.....
Number of old mines abandoned, .....	.....

## TABLE A.

## PRODUCTION OF COAL

Names of Operators	Tons
Hillside Coal and Iron Company, .....	583,729
Delaware and Hudson Company, .....	524,509
Scranton Coal Company, .....	394,278
Connell Anthracite Mining Company, .....	312,428
Lackawanna Coal Company, Limited, .....	308,502
Moosic Mountain Coal Company, .....	224,777
Mt. Jessup Coal Company, Limited, .....	204,814
Northern Anthracite Coal Company, .....	163,651
Temple Coal Company, .....	92,470
O'Boyle-Foy Anthracite Coal Company, .....	62,185
Dolph Coal Company, Limited, .....	54,592
Sacandaga Coal Company, .....	36,669
Carbondale Coal Mining Company, .....	33,691
Clinton Falls Coal Company, .....	8,995
Wachna-Taylor Anthracite Coal Company, .....	1,337
Total, .....	<u><u>3,006,627</u></u>

## Production by Counties

Lackawanna, .....	1,694,392
Susquehanna, .....	678,639
Sullivan, .....	539,601
Wayne, .....	93,995
Total, .....	<u><u>3,006,627</u></u>

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Hillside Coal and Iron Co., .....	4	.....	4	.....	1	1	145,622	.....	1,110	285	1,395	278	.....	.....	285
Delaware and Hudson Co., .....	4	.....	4	9	.....	9	131,127	58,279	599	180	779	150	.....	.....	67
Scranion Coal Co., .....	3	.....	3	6	1	7	131,426	65,713	606	364	970	202	.....	.....	101
Connell Anthracite Mining Co., .....	1	.....	1	1	.....	1	312,428	312,428	364	168	532	364	.....	.....	364
Lockawanna Coal Co., Limited, .....	1	.....	1	1	2	3	308,502	308,502	574	168	732	574	.....	.....	574
Wickham Coal Co., .....	1	.....	1	.....	1	1	224,777	112,388	378	56	434	378	.....	.....	56
Mt. Jessup Coal Co., Limited, .....	1	.....	1	.....	1	1	204,814	162,657	392	238	630	392	.....	.....	238
Northern Anthracite Coal Co., .....	.....	.....	.....	1	.....	1	162,657	162,657	392	238	630	392	.....	.....	238
Temple Coal Co., .....	.....	.....	.....	2	.....	2	92,470	46,235	204	86	280	204	.....	.....	86
O'Boyle-Foy Anthracite Coal Co., .....	.....	.....	.....	3	.....	3	31,093	20,728	131	66	197	66	.....	.....	103
Dolph Coal Co., Limited, .....	.....	.....	.....	2	.....	2	54,592	54,592	242	161	403	242	.....	.....	44
Sacandaga Coal Co., .....	.....	.....	.....	1	.....	1	18,335	18,335	108	24	132	54	.....	.....	242
Carbondale Coal Mining Co., .....	.....	.....	.....	2	.....	2	18,335	18,335	108	24	132	54	.....	.....	24
Clinton Falls Coal Co., .....	.....	.....	.....	4	.....	4	8,423	8,423	72	43	115	43	.....	.....	18
Miscellaneous Companies, .....	.....	.....	.....	.....	.....	.....	8,995	.....	21	25	46	21	.....	.....	.....
Totals and averages, .....	21	1	22	39	7	46	143,173	77,093	5,022	1,951	6,973	239	1,951	.....	279

TABLE C.—Causes of Fatal Accidents Inside and Outside of Mines

	Months													Percentages
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	
Inside														
Falls of roof, .....	2	...	3	1	...	1	...	1	...	3	...	1	12	57.15
Mine cars, .....	...	1	...	...	1	...	1	2	1	...	...	...	6	28.57
Explosions of powder and dynamite, .....	...	...	...	...	...	...	...	...	...	...	...	1	1	4.76
Blasts, premature and otherwise, .....	...	...	1	...	...	...	...	1	...	...	...	...	2	9.52
Totals, .....	2	1	4	1	1	1	1	4	1	3	...	2	21	100.00
Outside														
Scalded by steam, ....	...	...	...	...	...	...	...	...	...	1	...	...	1	100.00
Totals, .....	...	...	...	...	...	...	...	...	...	1	...	...	1	100.00
Grand totals inside and outside, .....	2	1	4	1	1	1	1	4	1	4	...	2	22	.....

TABLE D.—Causes of Non-Fatal Accidents Inside and Outside of Mines

	Months													Percentages
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	
Inside														
Falls of coal, .....						1	1		1				3	7.69
Falls of roof, .....	2	4	3										10	25.64
Mine cars, .....				1		2	1		1	1	1	1	8	20.51
Explosions of gas, ....										6			6	15.38
Explosions of powder and dynamite, .....		1	3										4	10.25
Blasts, premature and otherwise, .....	1			1					1				3	7.69
Mules, .....							1						1	2.56
Machinery, .....						1							1	2.57
Struck by timber, ....								1					1	2.57
Struck by piece of rock, .....									1				1	2.57
Falling, .....					1								1	2.57
Totals, .....	3	5	6	3	1	4	3	2	3	7	1	1	39	100.00
Outside														
Cars, .....					1	1							2	28.57
Struck by steam heater, .....			1										1	14.28
Struck by bar, .....		1											1	14.28
Struck by timber, ....		1											1	14.29
Falling, .....						1							1	14.29
Scalded by steam, ....		1											1	14.29
Totals, .....	1	2	1		1	2							7	100.00
Grand totals inside and outside, .....	4	7	7	3	2	6	3	2	3	7	1	1	46	.....

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
Inside													
Miners, .....	1	...	2	1	...	1	...	2	1	...	...	1	11
Miners' laborers, .....	1	1	2	...	...	...	...	1	1	...	...	1	6
Drivers and runners, .....	...	...	...	...	...	...	1	1	...	...	...	...	2
Doorboys and helpers, .....	...	...	...	...	...	...	1	1	...	...	...	...	1
Brakemen, .....	...	...	...	...	1	...	...	...	...	...	...	...	1
Totals, .....	2	1	4	1	1	1	1	4	1	3	...	2	21
Outside													
Ashmen, .....	...	...	...	...	...	...	...	...	...	1	...	...	1
Totals, .....	...	...	...	...	...	...	...	...	...	1	...	...	1
Grand totals inside and outside, .....	2	1	4	1	1	1	1	4	1	4	...	2	22

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
Inside													
Miners, .....	2	5	4	2	...	1	...	1	1	4	...	...	20
Miners' laborers, .....	1	...	2	1	1	...	1	1	1	3	...	...	11
Drivers and runners, .....	...	...	...	...	...	2	2	...	1	...	...	1	6
Brakemen, .....	...	...	...	...	...	...	...	...	...	...	1	...	1
Machine runners, .....	...	...	...	...	...	1	...	...	...	...	...	...	1
Totals, .....	3	5	6	3	1	4	3	2	3	7	1	1	39
Outside													
Drivers, .....	...	...	...	...	...	1	...	...	...	...	...	...	1
Dumpers, .....	...	2	...	...	1	...	...	...	...	...	...	...	1
Carpenters, .....	...	...	...	...	...	...	...	...	...	...	...	...	2
Engineers and firemen, .....	1	...	1	...	...	1	...	...	...	...	...	...	3
Totals, .....	1	2	1	...	1	2	...	...	...	...	...	...	7
Grand totals inside and outside, .....	4	7	7	3	2	6	3	2	3	7	1	1	46



TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months											
	January	February	March	April	May	June	July	August	September	October	November	December
Totals												
American, .....	...	...	...	...	1	...	1	...	...	...	...	2
Scotch, .....	...	...	...	...	...	...	...	...	...	...	1	1
Irish, .....	...	...	1	...	...	...	...	...	1	...	...	2
German, .....	...	...	...	...	...	...	...	...	...	1	...	1
Polish, .....	2	...	1	...	...	...	...	...	...	...	...	3
Italian, .....	...	...	1	...	...	1	...	...	...	...	1	4
Slavonian, .....	...	1	...	...	...	...	...	1	...	1	...	3
Lithuanian, .....	...	...	...	1	...	...	...	1	...	1	...	3
Austrian, .....	...	...	...	1	...	...	...	1	...	...	...	3
Russian, .....	...	...	1	...	...	...	...	...	...	1	...	2
Totals, .....	2	1	4	1	1	1	1	4	1	4	2	22

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months											
	January	February	March	April	May	June	July	August	September	October	November	December
Totals												
American, .....	...	...	1	...	...	2	1	...	1	...	...	5
English, .....	...	...	...	...	...	...	1	...	...	...	1	3
German, .....	1	...	...	...	...	1	...	...	...	1	...	3
Polish, .....	...	...	...	...	1	...	...	...	1	5	...	2
Italian, .....	1	2	...	1	1	...	1	...	1	...	...	15
Slavonian, .....	...	...	...	...	...	2	1	...	...	1	...	4
Lithuanian, .....	...	...	...	...	...	...	...	1	...	...	...	1
Austrian, .....	...	1	1	...	...	...	...	1	1	...	...	9
Russian, .....	...	2	...	...	...	1	...	...	...	...	...	5
Totals, .....	4	7	7	3	2	6	3	2	3	7	1	46

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Hillside Coal and Iron Co. Forest City Colliery:	Shaft,...	Non-gas,...	{ Fan, ....	18	6	5	70	1.5	Guibal,	Steam, .....	..	5	57,690	53,160	63,130	166
Forest City No. 2 (Dunmore), .....	Shaft,...		{ Fan, ....	24	6.6	7	65	1		Steam, .....	..	5	72,930	70,710	76,277	188
Clifford, .....	Shaft,...		{ Fan, ....	20	6.6	5.5	60	.5		Steam, .....	..	5	84,310	82,766	86,390	244
Gray, .....	Slope, ...		{ Fan, ....	20	6.6	5.5	60			Electricity, ..	..	5	85,000	75,375	86,463	222
Delaware and Hudson Co. Clinton Colliery:	Slope, ...	Non-gas,...	{ Fan, ....	17	4	4.4	95	1.6	Guibal,	Electricity, ..	..	3	52,600	50,620	54,695	118
Clinton No. 3, .....	Slope, ...		{ Fan, ....	20	5	5	75	1.4		Steam, .....	..	4	77,450	77,820	78,060	212
Clinton No. 8, .....	Drift, ...		{ Fan, ....	10	2.5	2.5	112	.6	Guibal,	Steam, .....	..	1	27,500	26,075	28,300	73
Clinton No. 5, .....	Drift, ...		{ Fan, ....	10	2.5	2.5	112	.5		Steam, .....	..	1	27,000	26,750	28,450	73
Clinton No. 7, .....	Drift, ...		{ Fan, ....	10	2.5	2.5	112	.5		Electricity, ..	..	4	53,900	51,420	56,750	159
Clinton No. 10, .....	Slope, ...		{ Fan, ....	20	5	5	75	.3			..					
Seranton Coal Co. Ontario Colliery:	Tunnel, ..	Non-gas,...	{ Fan, ....	14	4	5	90	.6	Guibal,	Steam, ...	..	3	65,900	42,000	71,800	140
Strung, .....	Shaft, ...		{ Fan, ....	20	6	6.3	65	1.2			..	2	72,600	65,000	81,000	230
Blue Ridge, .....	Shaft, ...		{ Fan, ....	15	4	4.6	75	.5			..	2	45,000	40,000	49,300	80
Klondike, .....	Tunnel, ...		{ Fan, ....	12	3.3	3.6	100	.7			..	3	49,000	39,000	55,500	130
Cornell Anthracite Mining Co. Cornell Colliery:	Drift, .....	Non-gas,...	Fan, .....	16	4	4	100	.2	Guibal,	Electricity, ..	..	5	84,000	66,000	84,000	364



TABLE I.—Continued

Names of Operators and Mines	Number of persons employed inside	20	17
	Number of cubic feet of air per minute passing out at outlet	42,000	20,500
	Total number of cubic feet of air per minute circulating in all the splits	37,000	13,000
	Number of cubic feet of air per minute entering the mine at inlet	40,000	13,000
	Number of splits of air currents	1	1
	Area of furnace bars in square feet	:	..
	Power used	.....	Steam, .....
	Name of fan	.....	Guibal, .
	Water gauge developed—in inches	.....	1.2
	Number of revolutions per minute	.....	.....
	Depth of blades in feet and inches	.....	.....
	Width of blades in feet and inches	.....	.....
	Diameter of fan in feet and inches	.....	.....
	Method of ventilation	Natural, ..	†
	Gaseous or non-gaseous	Non-gas., ..	Non-gas., ..
	Kind of opening	Drift, ....	Slope, .....
Clinton Falls Coal Co. Clinton Falls Colliery: Clinton Falls, .....			
Wachna-Taylor Anthracite Coal Co. Wachna-Taylor Colliery: Wachna-Taylor, .....			

†Ventilated by O'Boyle-Foy Anthracite Coal Co., on southwest split.

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Hillside Coal and Iron Co. Forest City, .....	Susquehanna, ....	Joseph P. Jennings,	Scranton, .....	H. E. Yeweus, .....	Forest City, .....	Erie
Delaware and Hudson Co. Clinton, .....	{ Lackawanna, . } { Waverly, . } Susquehanna, .....	E. R. Pettibone, ....	Dorrancton, .....	C. H. Constantie, ...	Carbondale, .....	D. and H.
Clinton Washery, .....						
Scranton Coal Co. Ontario, .....	{ Lackawanna, ...	W. L. Allen, .....	Peckville, .....	Daniel Young, .....	Scranton, .....	N. Y. O. and W.
Ontario Washery, .....						
Connell Anthracite Mining Co. Connell, .....	Sullivan, .....	W. L. Connell, ....	Scranton, .....	.....	.....	Lehigh Valley
Lackawanna Coal Co., Limited	Lackawanna, ...	F. H. Hemelright, ..	Scranton, .....	Joseph Reese, .....	Olyphant, .....	Erie and D. L. and W.
Mooste Mountain Coal Co. Marshwood, ....	Lackawanna, ...	C. P. Ford, .....	Marshwood, .....	C. P. Ford, .....	Marshwood, .....	D. L. and W.
Mt. Jessup Coal Co., Limited	Lackawanna, ...	.....	.....	John T. Cartwright,	Peckville, .....	D. L. and W.; N. Y. O. and W.; Erie; and D. and H.
Northern Anthracite Coal Co. Murray, .....	Sullivan, .....	M. J. Murray, Sr., ..	Dunmore, .....	J. F. Flannelly, ....	Lopez, .....	Lehigh Valley
Temple Coal Co. Northwest, .....	Lackawanna, ...	F. H. Hemelright, ..	Scranton, .....	T. J. Aston, .....	Carbondale, .....	N. Y. O. and W.
O'Boyle-Foy Anthracite Coal Co. O'Boyle-Foy, .....	Sullivan, .....	M. W. O'Boyle, ....	Pittston, .....	M. J. Clemons, .....	Murray, .....	Lehigh Valley
Dolph Coal Co., Limited Dolph, .....	Lackawanna, ...	W. G. Robertson, ...	Scranton, .....	W. G. Robertson, ...	Scranton, .....	Erie





TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Hillside Coal and Iron Co.													
Forest City, .....	Susquehanna, ..	533,038	42,730	7,911	583,729	267	1,395	4	1	573,125	43,750	37,500	77
Delaware and Hudson Co.													
Clinton, .....	Lackawanna, {	404,012	22,048	3,539	439,599	261	779	4	9	418,375	66,819	.....	84
Clinton Washery, .....	Wayne, .....	95,015	1,885	.....	94,910	158							
Totals, .....	Susquehanna, ..	497,027	23,943	3,539	534,509	.....	779	4	9	418,375	66,819	.....	84
Ontario, .....													
Ontario Washery, .....	Lackawanna, {	246,719	47,205	2,709	296,633	197	923	3	7	155,375	202,250	.....	107
Totals, .....	.....	323,650	62,705	2,923	384,278	.....	970	3	7	155,375	202,250	.....	107
Connell Anthracite Mining Co.													
Connell, .....	Sullivan, .....	277,462	31,200	4,066	312,428	285	532	1	1	100,100	37,664	.....	9
Lackawanna Coal Co., Limited													
Lackawanna, .....	Lackawanna, ..	267,292	30,572	10,638	308,502	250	732	1	3	386,050	74,975	.....	21
Moosic Mountain Coal Co.													
Marshwood, .....	Lackawanna, ..	205,694	18,656	2,427	224,777	233	434	2	1	158,125	125,625	.....	50
Mt. Jessup Coal Co., Limited													
Mt. Jessup, .....	Lackawanna, ..	179,125	21,619	4,070	204,814	261	630	1	10	157,275	54,267	.....	41

TABLE 2.—Continued

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Northern Anthracite Coal Co. Murray, .....	Sullivan, .....	155,176	5,000	3,475	163,651	171	300	.....	1	126,000	1,800	.....	21
Temple Coal Co. Northwest, .....	Lackawanna, ..	86,629	5,274	607	92,470	158	284	1	2	96,300	6,988	.....	39
O'Boyle-Foy Anthracite Coal Co. O'Boyle-Foy, .....	Sullivan, .....	53,785	7,500	900	62,185	150	197	2	3	48,425	10,000	.....	18
Dolph Coal Co. Dolph, .....	Lackawanna, ..	38,207	15,000	1,385	54,592	81	403	.....	1	78,975	13,650	.....	30
Sacandaga Coal Co. Sacandaga No. 1, .....	Lackawanna, ..	21,591	385	3,922	25,898	255	97	2	3	76,450	9,875	.....	6
Sacandaga No. 2, .....	Lackawanna, ..	10,771	.....	.....	10,771	255	35	.....	.....	4,247	.....	.....	5
Totals, .....	.....	32,362	385	3,922	36,659	.....	132	2	3	76,900	14,122	.....	11
Carbondale Coal Mining Co. Rolands, .....	Lackawanna, ..	20,985	4,000	8,706	33,691	246	115	.....	4	48,750	5,625	.....	7
Clinton Falls Coal Co. Clinton Falls, .....	Wayne, .....	7,191	984	820	8,995	146	46	1	.....	4,000	200	200	9
Wachna-Taylor Anthracite Coal Co. Wachna-Taylor, .....	Sullivan, .....	1,000	300	37	1,337	11	24	.....	.....	575	.....	.....	4
Grand totals, .....	.....	2,681,323	209,878	55,426	3,006,627	.....	6,973	22	46	2,428,350	662,735	37,700	538

TABLE 2.—Part 2  
Number and kinds of boilers and locomotives in use, number of steam engines, pumps, electric dynamos and air compressors in use, etc.

Names of Operators	County	Number of Boilers				Locomotives				Total horse power	Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors	
		Cylindrical	Horse power	Tubular	Horse power	Gasoline	Steam	Air	Electric									
Hillside Coal and Iron Co., ....	Susquehanna, ..	.....	.....	31	3,740	3,740	.....	5	.....	19	45	3,500	5,000	2,000	5,000	2,000	.....	.....
Delaware and Hudson Co., ....	Lackawanna, ..	.....	1,295	5	1,295	1,295	.....	2	.....	4	40	1,862	1,600	1,000	1,600	1,000	.....	.....
Scranton Coal Co., .....	Wayne, .....	.....	1,900	14	1,900	2,160	.....	4	.....	2	43	2,536	2,980	2,980	2,980	2,980	.....	.....
Connell Anthracite Mining Co., ..	Lackawanna, ..	.....	1,900	9	1,900	1,900	.....	.....	.....	.....	10	1,530	2,800	2,800	2,800	2,800	.....	.....
Lackawanna Coal Co., Limited, ..	Lackawanna, ..	.....	2,810	12	2,810	2,810	.....	.....	.....	9	21	2,530	8,500	4,800	8,500	4,800	.....	.....
Moore Mountain Coal Co., .....	Lackawanna, ..	.....	550	17	550	550	.....	.....	.....	.....	5	160	.....	.....	.....	.....	.....	.....
M. J. Jessup Coal Co., Limited, ..	Lackawanna, ..	.....	2,480	12	2,480	2,480	.....	.....	.....	.....	17	850	3,300	3,300	3,300	3,300	.....	.....
Northern Anthracite Coal Co., ..	Sullivan, .....	.....	500	4	500	500	.....	.....	.....	.....	6	370	3,000	2,950	3,000	2,950	.....	.....
Temple Coal Co., .....	Lackawanna, ..	.....	900	4	900	900	.....	.....	.....	.....	18	1,350	.....	.....	.....	.....	.....	.....
O'Boyle-Fox Anthracite Coal Co., ..	Sullivan, .....	.....	500	2	500	500	.....	.....	.....	.....	3	150	.....	.....	.....	.....	.....	.....
Dolph Coal Co., Limited, .....	Lackawanna, ..	.....	2,320	13	2,320	2,320	.....	.....	.....	.....	35	1,755	.....	.....	.....	.....	.....	.....
Sacandaga Coal Co., .....	Lackawanna, ..	.....	1,125	1	1,125	1,125	.....	.....	.....	.....	8	210	.....	.....	.....	.....	.....	.....
Carlondale Coal Mining Co., .....	Lackawanna, ..	.....	375	6	375	375	.....	.....	.....	.....	8	210	.....	.....	.....	.....	.....	.....
Clinton Falls Coal Co., .....	Wayne, .....	.....	40	1	40	40	.....	.....	.....	.....	3	200	.....	.....	.....	.....	.....	.....
Wachua-Taylor Anthracite Coal Co., .....	Sullivan, .....	.....	80	1	80	80	.....	.....	.....	.....	2	65	.....	.....	.....	.....	.....	.....
Totals, .....	.....	13	19,865	123	19,865	20,125	4	32	.....	50	257	17,068	28,630	17,025	28,630	17,025	22	9

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside										Outside								Grand total		
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks		All other employes	Total outside
Hillside Coal and Iron Co., .....	Susquehanna, .....	3	9	....	414	389	77	24	7	127	60	1,110	1	1	25	33	50	24	3	148	285	1,395
Delaware and Hudson Co., .....	Lackawanna, .....	1	4	....	190	209	77	32	11	53	22	599	..	1	7	30	12	20	2	108	180	779
Scranton Coal Co., .....	Wayne, .....	1	5	....	250	194	83	6	11	....	56	606	..	1	17	54	61	85	1	145	364	970
Connell Anthracite Mining Co., .....	Susquehanna, .....	1	2	....	192	156	...	...	7	8	99	364	..	1	9	11	23	24	5	95	168	532
Lackawanna Coal Co., Limited, .....	Lackawanna, .....	2	2	6	175	211	6	10	10	64	88	574	1	1	18	20	....	25	4	89	158	732
Moosic Mountain Coal Co., .....	Lackawanna, .....	2	1	....	168	125	50	9	2	12	9	378	1	1	8	5	....	....	2	39	56	434
Mt. Jessup Coal Co., Limited, .....	Lackawanna, .....	1	1	8	120	172	48	7	11	....	24	392	1	3	16	30	62	20	3	103	238	630
Northern Anthracite Coal Co., ..	Sullivan, .....	1	....	....	72	72	30	7	1	21	....	204	1	2	5	6	15	39	3	25	96	300
Temple Coal Co., .....	Lackawanna, .....	2	....	....	80	74	18	2	2	10	16	204	1	1	6	7	....	20	2	43	80	284
O'Boyle-Foy Anthracite Coal Co., ..	Sullivan, .....	1	....	....	60	42	12	2	2	6	6	131	1	1	3	5	3	18	1	34	66	137
Dolph Coal Co., Limited, .....	Lackawanna, .....	2	2	....	116	80	16	...	2	18	6	242	1	1	10	19	29	23	4	74	161	403
Sacandaga Coal Co., .....	Lackawanna, .....	2	....	....	47	40	13	...	...	...	...	108	2	1	1	5	3	....	....	....	....	11
Carbondale Coal Mining Co., .....	Lackawanna, .....	1	....	....	26	26	7	4	1	3	4	...	1	1	1	1	3	....	....	....	....	24
Clinton Falls Coal Co., .....	Wayne, .....	1	....	....	8	7	5	...	...	...	...	27	1	1	1	7	...	....	....	....	....	16
Wachna-Taylor Anthracite Coal Co., ..	Sullivan, .....	1	....	....	12	....	2	...	...	...	....	17	1	..	2	2	....	2	1	....	7	24
Totals, .....	.....	22	25	14	1,930	1,697	444	103	67	330	390	5,022	13	17	133	235	263	301	35	954	1,951	6,973

TABLE 3.—Part 2

[illegible]

TABLE 4.—Fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 6	Stanley Sapetoo, .....	Polish, .....	Laborer, ...	43	M.	1	2	Clinton Falls, ...	Wayne, .....	Killed by fall of roof at face of chamber.
18	Andrew Stavish, .....	Polish, .....	Miner, ...	28	M.	1	6	Connell, .....	Sullivan, .....	Killed by fall of roof at face of chamber.
Feb. 25	Joseph Cesko, .....	Slavonian, ..	Laborer, ...	35	S.	...	...	Sacandaga No. 1, ..	Lackawanna, ..	Killed by cars on slope.
March 3	Frank Mangana, .....	Polish, .....	Laborer, ...	25	M.	1	1	Forest City, .....	Susquehanna, ..	Killed by fall of roof at face of chamber.
13	Isak Lawko, .....	Italian, .....	Laborer, ...	30	S.	...	...	Northwest, .....	Lackawanna, ..	Killed by fall of roof at face of chamber.
15	Alex Gerrish, .....	Russian, .....	Miner, ...	40	M.	1	2	Ontario, .....	Lackawanna, ..	Killed by fall of roof at face of chamber.
16	Daniel O'Boyle, .....	Irish, .....	Miner, ...	38	M.	1	7	Mt. Jessup, .....	Lackawanna, ..	Killed by explosion of blast at face of chamber.
April 27	Frank Sudneck, .....	Austrian, ...	Miner, ...	35	M.	1	3	Clinton, .....	Wayne and Lackawanna, ..	Killed by fall of roof at face of chamber.
May 11	Monteith Brown, .....	American, ...	Brakeman, ..	19	S.	...	...	Forest City, .....	Susquehanna, ..	Killed by cars on gangway.
June 5	Leonia Tomosona, ..	Italian, .....	Miner, ...	26	S.	...	...	O'Boyle-Foy, .....	Sullivan, .....	Killed by fall of roof on pillar work.
July 17	Elsworth Simon, .....	American, ...	Driver, ...	18	S.	...	...	Clinton, .....	Wayne and Lackawanna, ..	Killed by cars on gangway.
Aug. 4	Martin Martzinski, ..	Lithuanian, ..	Driver, ...	20	S.	...	...	Clinton, .....	Wayne and Lackawanna, ..	Killed by cars at head of plane.
24	Anton Azello, .....	Italian, .....	Miner, ...	31	M.	1	1	Sacandaga No. 1, ..	Lackawanna, ..	Killed by explosion of blast at face of chamber.
26	Anthony Baker, .....	Austrian, ...	Miner, ...	36	M.	1	1	Clinton, .....	Wayne and Lackawanna, ..	Killed by fall of roof at face of chamber.
31	Joseph Ondrako, .....	Slavonian, ..	Door-tender, ..	19	S.	...	...	Forest City, .....	Lackawanna, ..	Killed by cars on gangway.
Sept. 2	Patrick McNulty, .....	Irish, .....	Miner, ...	55	M.	...	...	Forest City, .....	Susquehanna, ..	Killed by fall of roof at face of chamber.
Oct. 8	Harry Konevitch, .....	Russian, .....	Laborer, ...	21	S.	...	...	Lackawanna, .....	Lackawanna, ..	Killed by fall of roof at face of chamber.
13	William Yeris, .....	Lithuanian, ..	Miner, ...	40	M.	1	2	Ontario, .....	Lackawanna, ..	Killed by fall of roof at face of chamber.
27	Thomas McConnell, ..	German, .....	Ashman, ...	20	S.	...	...	Marshwood, .....	Lackawanna, ..	Scalded by steam when pipe burst in boiler house, Outside.
30	John Novak, .....	Slavonian, ..	Miner, ...	46	M.	1	...	Marshwood, .....	Lackawanna, ..	Killed by fall of roof at face of chamber.
14	James H. Spence, .....	Scotch, .....	Laborer, ...	43	M.	1	5	O'Boyle-Foy, .....	Sullivan, .....	Killed by fall of roof at face of chamber.
Dec. 23	David Bae, .....	Italian, .....	Miner, ...	25	S.	...	...	Ontario, .....	Lackawanna, ..	Killed by explosion of dynamite at face of chamber.



TABLE 5.—Non-fatal accidents inside and outside of mines

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 4	Rudolph Rossa, .....	Austrian, ..	Laborer, .....	26	S.	Northwest, .....	Lackawanna, ..	Leg fractured by fall of roof at pillar work.
	John Marley, .....	Italian, ....	Miner, .....	30	M.	Ontario, .....	Lackawanna, ..	Arm fractured by explosion of blast at face of chamber.
15	Frank Leben, .....	Austrian, ...	Miner, .....	38	M.	Clinton, .....	Wayne and Lackawanna, ..	Leg fractured by fall of roof at face of chamber.
25	Edward Gosart, .....	German, ....	Engineer, .....	55	M.	Marshwood, .....	Lackawanna, ..	Leg fractured by steam when steam pipe burst.
Feb. 2	George Howovits, .....	Russian, ....	Carpenter, .....	50	S.	Lackawanna, .....	Lackawanna, ..	Body bruised. Struck by plank. Outside.
7	Harry Meers, .....	English, ....	Carpenter, .....	55	M.	Lackawanna, .....	Lackawanna, ..	Rib fractured by car falling on him in boiler house. Outside.
8	Joseph Bayliff, .....	English, ....	Miner, .....	40	M.	Clinton, .....	Wayne and Lackawanna, ..	Back bruised by fall of roof at face of chamber.
16	Toney Martine, .....	Italian, ....	Miner, .....	30	M.	Mt. Jessup, .....	Lackawanna, ..	Back bruised by fall of roof at face of chamber.
18	Andrew Costie, .....	Russian, ....	Miner, .....	39	M.	Dolph, .....	Lackawanna, ..	Head lacerated by fall of roof at face of chamber.
20	Joseph Nosil, .....	Austrian, ....	Miner, .....	25	S.	O'Boyle-Foy, .....	Sullivan, .....	Leg fractured by fall of roof at face of chamber.
26	Paul Cullette, .....	Italian, ....	Miner, .....	33	M.	Ontario, .....	Lackawanna, ..	Eye and cheek lacerated by explosion of dynamite at face of chamber.
March 1	John Lasko, .....	Austrian, ...	Laborer, .....	47	M.	O'Boyle-Foy, .....	Sullivan, .....	Leg fractured by fall of roof at face of chamber.
10	Joseph Barazo, .....	Italian, ....	Miner, .....	28	M.	Bolands, .....	Lackawanna, ..	Face lacerated by explosion of dynamite at face of chamber.
	Pater Feglemena, ....	Italian, ....	Laborer, .....	21	S.	Bolands, .....	Lackawanna, ..	Face lacerated by explosion of dynamite at face of chamber.
22	Michael Evanic, ....	Russian, ....	Miner, .....	30	M.	Ontario, .....	Lackawanna, ..	Collar bone fractured by fall of roof at face of chamber.
	John Tolasko, .....	Italian, ....	Miner, .....	48	M.	Ontario, .....	Lackawanna, ..	Leg fractured by fall of roof at face of chamber.
24	Adam Naviski, .....	Russian, ....	Miner, .....	42	S.	Bolands, .....	Lackawanna, ..	Face lacerated by explosion of powder at face of chamber.
27	Ambrose Carden, .....	American, ..	Engineer, .....	22	S.	Sacandaga No. 1, ..	Lackawanna, ..	Thigh bruised by steam heater falling on him. Outside.
April 7	James Orrell, .....	Italian, ....	Laborer, .....	28	S.	Bolands, .....	Lackawanna, ..	Legs fractured by cars on slope.
10	George Baker, .....	Austrian, ...	Miner, .....	46	M.	Clinton, .....	Wayne and Lackawanna, ..	Leg fractured by fall of roof at face of chamber.

TABLE 5.—Continued

Date	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
April 22	John Bishop, .....	Austrian, ...	Miner, .....	25	S	O'Toyle-Foy, ....	Sullivan, .....	Arm fractured by explosion of blast at face of chamber.
May 5	Edward Luskey, .....	Polish, ....	Dumper, .....	26	S.	Forest City, ....	Susquehanna, ..	Skull fractured by cars on rock dump. Out-side.
23	Phillip Finera, .....	Italian, ....	Laborer, .....	22	S.	Sacandaga No. 1, .	Lackawanna, ..	Back bruised by falling while walking up slope.
June 9	John Watral, .....	Russian, ....	Miner, .....	41	M.	Ontario, .....	Lackawanna, ..	Ankle fractured by fall of coal at face of chamber.
16	William Dodin, .....	American, ...	Runner, .....	22	S.	Clinton, .....	Wayne and Lackawanna	Ruptured while lifting car on gangway.
17	Elias Brorg, .....	American, ..	Carpenter, .....	26	M.	Ontario, .....	Lackawanna, ..	Body bruised by falling from scaffold. Out-side.
21	Herman Gresky, ....	German, ....	Machine-runner, .....	38	M.	Connell, .....	Sullivan, .....	Foot fractured by mining machine in chamber.
29	Michael Hudock, ....	Slavonian, ..	Runner, .....	35	M.	Mt. Jessup, .....	Lackawanna, ...	Rib fractured by cars on gangway.
30	Pavola Batucci, ....	Slavonian, ..	Driver, .....	19	M.	Mt. Jessup, .....	Lackawanna, ..	Arm fractured by cars near breaker. Out-side.
July 14	Michael Tompka, .....	American, ...	Driver, .....	18	S.	Clinton, .....	Wayne and Lackawanna	Back bruised by cars on gangway.
22	Gregory Angelo, .....	Italian, ....	Driver, .....	18	S.	Clinton, .....	Wayne and Lackawanna	
27	Frank Haleirs, .....	Slavonian, ..	Laborer, .....	34	M.	Ontario, .....	Lackawanna, ..	Head lacerated by being kicked by a mule.
Aug. 9	Stanley Blessavage, ..	Lithuanian, ..	Miner, .....	45	M.	Northwest, .....	Lackawanna, ..	Leg fractured by fall of coal at face of chamber.
14	Anthony BicaY, .....	Austrian, ...	Laborer, .....	27	M.	Clinton, .....	Lackawanna, ..	Leg fractured by rock sliding on him from gob.
Sept. 2	Dominick Biagob, ....	Italian, ....	Miner, .....	33	M.	Mt. Jessup, .....	Wayne and Lackawanna	Chest crushed by timber falling on him at face of chamber.
16	Gerald Fitzpatrick, ..	American, ...	Driver, .....	17	S.	Clinton, .....	Lackawanna, ..	Arms fractured by explosion of blast at face.
22	Joseph Zavera, .....	Austrian, ...	Laborer, .....	21	S.	Clinton, .....	Wayne and Lackawanna	Ruptured while lifting car on gangway.
8	Joseph Malotiskie, ...	Polish, ....	Miner, .....	31	M.	Sacandaga No. 1, .	Lackawanna, ..	Knee bruised by fall of coal at face of chamber.
								Rib fractured by cars on gangway.

Oct.	26	Nov.	Dec.	Dominick Gorrellie, Dennis Kournti, Dennis Kourntine, Angelo Lombardi, Thomas Gamboni, Michael Hemish, William Sheere, Michael Buck,	Italian, Italian, Italian, Italian, Italian, Slovakian, English, Austrian,	Miner, Miner, Miner, Laborer, Laborer, Laborer, Brakenau, Driver,	39 28 29 28 39 26 26 49	M. S. S. S. M. S. S. S.	Mt. Jessup, Lackawanna, Murray,	Lackawanna, Lackawanna, Sullivan,	Hands and face burned by explosion of gas on gangway. Hips bruised by cars on gangway. Shoulder bruised by cars on gangway.

## CONDITION OF COLLIERIES

## HILLSIDE COAL AND IRON COMPANY

Forest City Colliery.—Ventilation, drainage and condition as to safety, good.

## DELAWARE AND HUDSON COMPANY

Clinton Colliery.—Ventilation, drainage and condition as to safety, good.

## SCRANTON COAL COMPANY

Ontario Colliery.—Ventilation, fair. Drainage and condition as to safety, good.

## CONNELL ANTHRACITE MINING COMPANY

Connell Colliery.—Ventilation, drainage and condition as to safety, good.

## LACKAWANNA COAL COMPANY, LIMITED

Lackawanna Colliery.—Ventilation, drainage and condition as to safety, good.

## MOOSIC MOUNTAIN COAL COMPANY

Marshwood Colliery.—Ventilation and safety conditions, good. Drainage, poor.

## MT. JESSUP COAL COMPANY, LIMITED

Mt. Jessup Colliery.—Ventilation, drainage and condition as to safety, good.

## NORTHERN ANTHRACITE COAL COMPANY

Murray Colliery.—Ventilation, drainage and condition as to safety, good.

## TEMPLE COAL COMPANY

Northwest Colliery.—Ventilation, fair. Drainage and condition as to safety, good.

## O'BOYLE-FOY ANTHRACITE COAL COMPANY

O'Boyle-Foy Colliery.—Ventilation, fair. Drainage, poor. Condition as to safety, good.

## DOLPH COAL COMPANY, LIMITED

Dolph Colliery.—Ventilation, drainage and condition as to safety, good.

## SACANDAGA COAL COMPANY

Sacandaga Nos. 1 and 2 Collieries.—Ventilation, drainage and condition as to safety, good.

## CARBONDALE COAL MINING COMPANY

Bolands Colliery.—Ventilation, fair. Drainage and condition as to safety, good.

## CLINTON FALLS COAL COMPANY

Clinton Falls Colliery.—Ventilation, drainage and condition as to safety, good.

## WACHNA-TAYLOR ANTHRACITE COAL COMPANY

Wachna-Taylor Colliery.—Ventilation and drainage, fair. Condition as to safety, good.

## IMPROVEMENTS

## HILLSIDE COAL AND IRON COMPANY

Forest City Colliery.—Inside: At Gray's slope, completed a motor barn, pump room and mine foremen's office of fireproof construction, and installed a 1000-gallon centrifugal pump, which delivers water direct to the surface. A dam was erected near Gray's slope to supply an air compressor with water.

At No. 2 shaft, a hospital of fireproof construction was built near the foot of the shaft. Installed a 6-stage 2000-gallon centrifugal pump.

Outside: At Clifford Shaft, completed a frame building, covered on the outside with sheet iron, and installed a 20-foot ventilating fan and fan engine to take the place of building and equipment destroyed by fire during the early part of the year.

Laid an 8-inch steam line from Forest City boiler rooms to Clifford, a distance of 4,000 feet, for the purpose of doing away with Clifford boiler plant.

A shaft 10 feet by 10 feet and 105 feet deep was sunk from the surface to the Dunmore vein, for a second opening and air shaft.

## LACKAWANNA COAL COMPANY, LIMITED

Lackawanna Colliery.—Completed a 7 by 14 foot rock plane, on a 15 degree pitch, from Clark vein to Dunmore vein, a distance of 490 feet; a 7 by 10 foot airway from Clark vein to New County vein, on a 45 degree pitch, 165 feet in length. The tunnel from the surface to the Dunmore vein, above the mountain fault, which was abandoned several years ago, has been reopened for the purpose of mining the coal on the Delaware and Hudson Stevens farm tract, above the mountain fault.

Installed two 250 H. P. Maxim boilers, and an additional 220 inch fan blower, also a 16 by 10 by 18 inch duplex boiler feed pump.

The old boiler house has been torn down, and a fireproof building of steel frame, with asbestos protected corrugated steel roof and siding, has been erected in its place.





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Shamokin Red Ash Coal Co., .....	415
Shipman Coal Co., .....	435
Smith and Co., H. H., .....	367
South Side Coal Co., .....	149
Spencer Coal Co., .....	127
Spruks Coal Co., .....	149
Stackhouse Coal Co., E. S., .....	293
Susquehanna Coal Co., .....	293,367,415,435,537
Temple Coal Co., .....	75,559
Thomas Colliery Co., .....	367
Traders Coal Co., .....	193
Treverton Colliery Co., .....	435
Upper Lehigh Coal Co., .....	315
Van Wickle Estate, A. S., .....	459
Wachna-Taylor Anthracite Coal Co., .....	559
Wentz and Co., J. S., .....	315
West End Coal Co., .....	293
West Mountain Coal Co., .....	75
West Nanticoke Coal Co., .....	269
White and Co., .....	509
Wilkes-Barre Anthracite Coal Co., .....	217
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Blower

